

meltemsahin/ozkoc

MS. Building Performance & Diagnostics, 2026 | Carnegie Mellon University

Selected Works

Middle East Technical University

B.Arch. 2023'





meltemsahin/ozkoc

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**Photo taken in the Opening Ceremony of
Oktoberfest in Munich, Germany
- a nice memory before the start of my
graduate studies.*

Meltem Sahin is an architect and researcher who proposes to work at the intersection of building intelligence, energy efficiency and high-performance design. She completed her B.Arch. studies at the Middle East Technical University as the salutatorian in 2023. In her Bachelor of Architecture thesis, she studied the urban interface of data centers and their integration into city life and infrastructure by proposing the transformation of shopping malls into accessible energy hubs.

Meltem is currently a graduate student at the Carnegie Mellon University, M.Sc. Building Performance & Diagnostics program as a Fulbright Scholar and a former student at the TU Munich, Information Technologies for the Built Environment (ITBE) program as a TEV-DAAD Master's scholar. She was previously employed by Arcelik Global Inc. on an interdisciplinary R&D project on smart-home energy management.

She is ,now, dedicated to support the innovation in the built environment through a fruitful summer internship in the US.



website

What to expect from this portfolio?

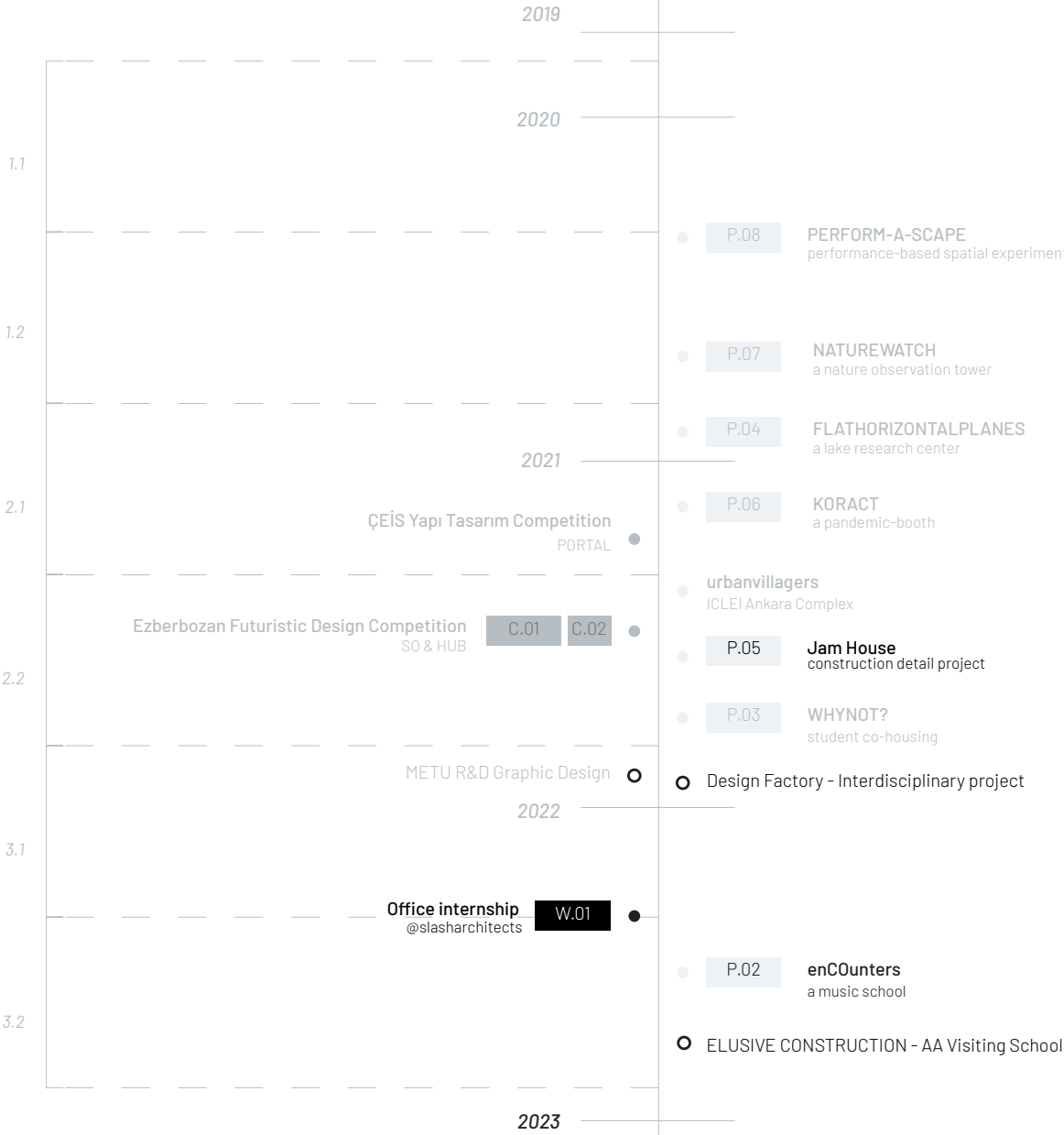
In this portfolio, I instinctly put a framework for easy reading and examining.

Here are a few things you will bump accross while wandering through pages:

- ¹ I gave **letter and number based codes** to the content for the sake of organization and neat flow *indicating Academic, Competitions and Professional Work* [e.g. P.01, C.01, W.,01,...].
- ² I put these codes and project names **on the bottom side of the page** for easy navigation.
- ³ Before each project, I used **half a page to summarize the design proposal and give some facts & brief about the project.**
- ⁴ Even in **team/group** works, I reflected **my own productions** to make this compilement belong literally to the author.

Chronological Content Matrix

- P Academic
- C Competitions
- W Work
- Occupations & Workshops



B.ARCH. GRADUATION PROJECT

- P.01 BI-T-OWER
reimagining the post-digital interface
- P.09 BLUE PRINT GREEN DESIGN
A Python program for energy efficient design

Occupations

- Professional volleyball & National team player
- Jazzberry Tunes- A Capella Chorist
- Piano, guitar and singing
- Passion for sharing and archiving
@odtudeyemek - Food in Campus
@oncekahvem - Food & Coffee Critic
@nekotarch - Architecture Blog

Organizations & Workshops

- EASA Turkey 2021
- Rammed Earth Workshop
- "The Trashes of the Village" by SO?
- AA Sirince Visiting School
- AA Izmir Visiting School

PROGRAM/TYPE
Masterplan / Technology

LOCATION
Kizilay, ANKARA

CRITIC
Prof.Dr.Aysen Savas (UCL, MIT) aysens@metu.edu.tr
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Emre Erkal (Harvard GSD, Founder @Erkal Architects) emree@metu.edu.tr
Res.Asst.Omer Faruk Agirsoy (TU Delft) ofagirsoy@metu.edu.tr
Res.Asst.Serda Buket Erol bukete@metu.edu.tr

DATE
2022-2023 | Fall - Spring
Thesis/Diploma Project

BI-T-OWER considers **data as the most valuable resource** of today's world and tries to make its production and storage accessible to public via injecting these storages into the left-over voids of shopping malls. It, further, aims at turning these places **accessible and sustainable energy hubs** by utilizing its energy intensive nature in public's benefit through infrastructural tools.

It believes that **data farms** may be the new urban typology that can **dig, store and present the stories of the city** as well as prepare it for the future smart typologies. Therefore, the project seeks for the ways to integrate these farms into the urban fabric by proposing the **togetherness of public programs with the infrastructure** of the data center. For the integration of data farms in the city, shopping malls as one of the most prominent new "urban" typologies of Ankara are targeted.



Fall - Phase I Booklet
REIMAGINING THE POST-ANTHROPOCENE INTERFACE:
HACKINGTHEMALL



Spring - Phase II Booklet
REIMAGINING THE POST-DIGITAL INTERFACE:
BI-T-OWER



Interim Review at Middle East Technical University (METU) | February, 2023

A. INITIAL RESEARCH - UNDERSTANDING DATA AND ITS ARCHITECTURE

A.1. "Data matter"

Why and how

Traffic to and from data centers through years
From terabyte to zettabyte...

Year	Storage Capacity
1987	2 TB
1997	60 PB
2007	50 EB
2017	1.1ZB

Andrae, Anders S.G., and Tomas Edler. On Global Electricity Usage of Communication Technology: Trends to 2030. MDPI. Multidisciplinary Digital Publishing Institute, <https://doi.org/10.3390/challe6010117>

A.2. Invisible data

Where and why



«The most significant architectural spaces in the world are now entirely empty of people.»

Liam Young, Editor of Architectural Design: Machine Landscapes, Vol 89, 2019

A.3. Reasons for data integration

What, why and how

As a new-gen typology



«At a moment when our collective history is digital, the **data center is becoming one of our most significant cultural typologies**. In this context the spaces of museum storage and experience are afforded new relevance in what would have once been an unexpected alliance.»

Ram Koolhaas, OMA, Museum in the Countryside, 2018

As a central figure of society



«These structures aren't industrial or remote or distant anymore. These are **cultural landscapes**. ...these are the landscapes **that define who we are**. And they're ever-growing.»

Liam Young, Editor of Architectural Design: Machine Landscapes, Vol 89, 2019,

As a transparent city source



One of the most important characteristics of an **intelligent city is the data**. Creating a **knowledge infrastructure** can provide many potentials for the cities.

Paul N Edwards, "Knowledge Infrastructures for the Anthropocene," The Anthropocene Review 4, no. 1 (2017): 36, <https://doi.org/10.1177/2053019616679854>

Image courtesy: Ozel, Guvenc, UCLA Deep Urbanism Studio Overview

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Paul N Edwards, "Knowledge Infrastructures for the Anthropocene," The Anthropocene Review 4, no. 1 (2017): 36, <https://doi.org/10.1177/2053019616679854>

A.4. Recent developments and ideas

Recent R&D in the data center architecture solutions

Relation to water



Microsoft wants to **submerge** data centers to keep them cool and to harvest energy from the **Sea**.

Microsoft, 2016

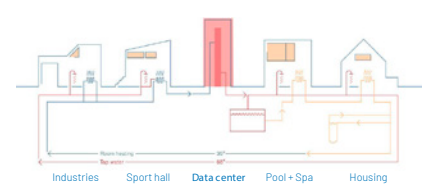
Energy-optimization



Defying this energy-draining typology, the Facebook Prineville Data Center in central Oregon has achieved **LEED Gold** status through advanced technologies, including an **innovative mechanical equipment penthouse** and evaporative cooling system, all while keeping data flowing and providing pleasant workspaces.»

Facebook, 2011

Being an energy hub



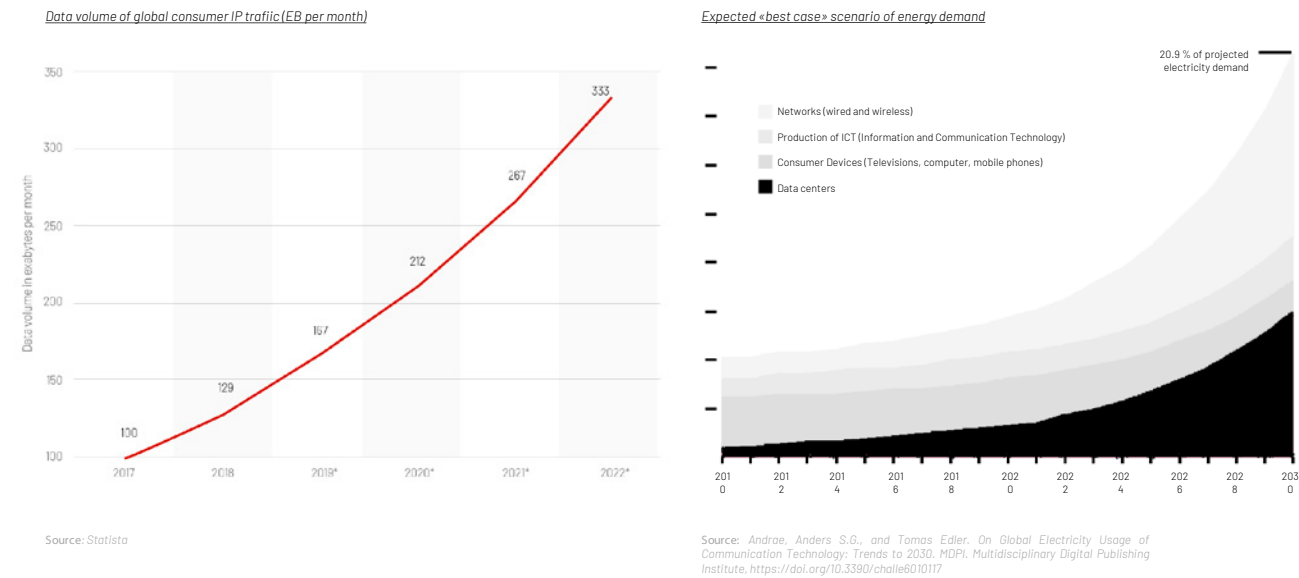
«The **heat** generated by data centers represents a **huge untapped potential** in terms of **energy capture** that we wanted to explore further. By efficiently and sustainably exploiting excess energy that would otherwise go to waste, we can use technology to generously support health, recreation and the environment.»

Kjetil Tvedal Thorsen, Founding Partner, Shohet & Thorsen, 2018

«By 2021, more than 90% of large data centers will revise their strategies due to global socioeconomic and environmental trends.»

Gartner, "Four Megatrends Impacting the Data Center" 2016

A.5. [CHALLENGE:] Datacenter as an energy monster
How come and how much



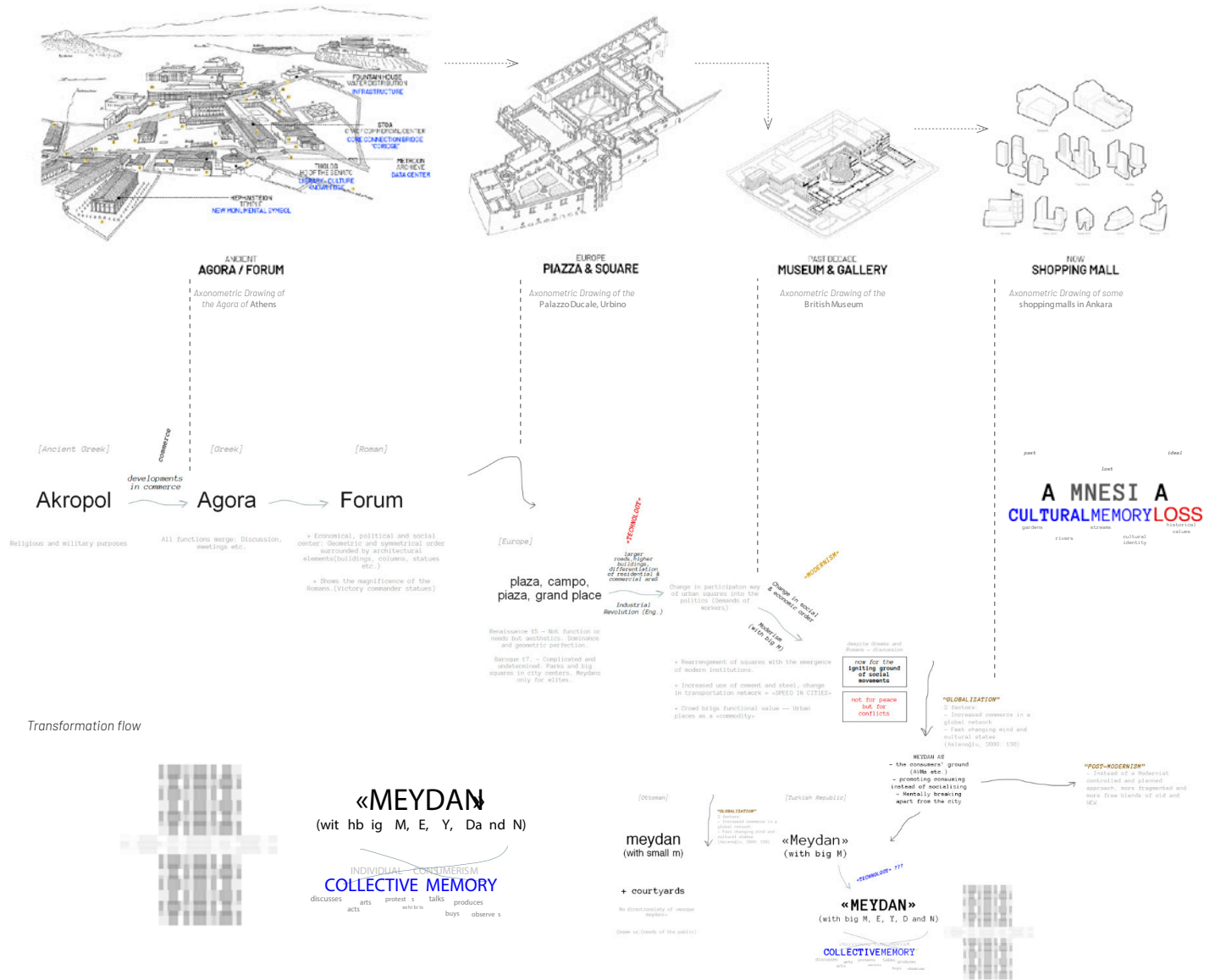
A.6. [OPPORTUNITY:] Data as a network
Status quo in Europe, a big opportunity for Ankara



B. FURTHER STUDIES ON PROGRAM AND DATA-PUBLIC INTERFACE

B.1. [IDEATHON:] Which public program brings us together today?
Squares? Museums? Shopping Malls?...

Systems thinking over "What makes a public space?"



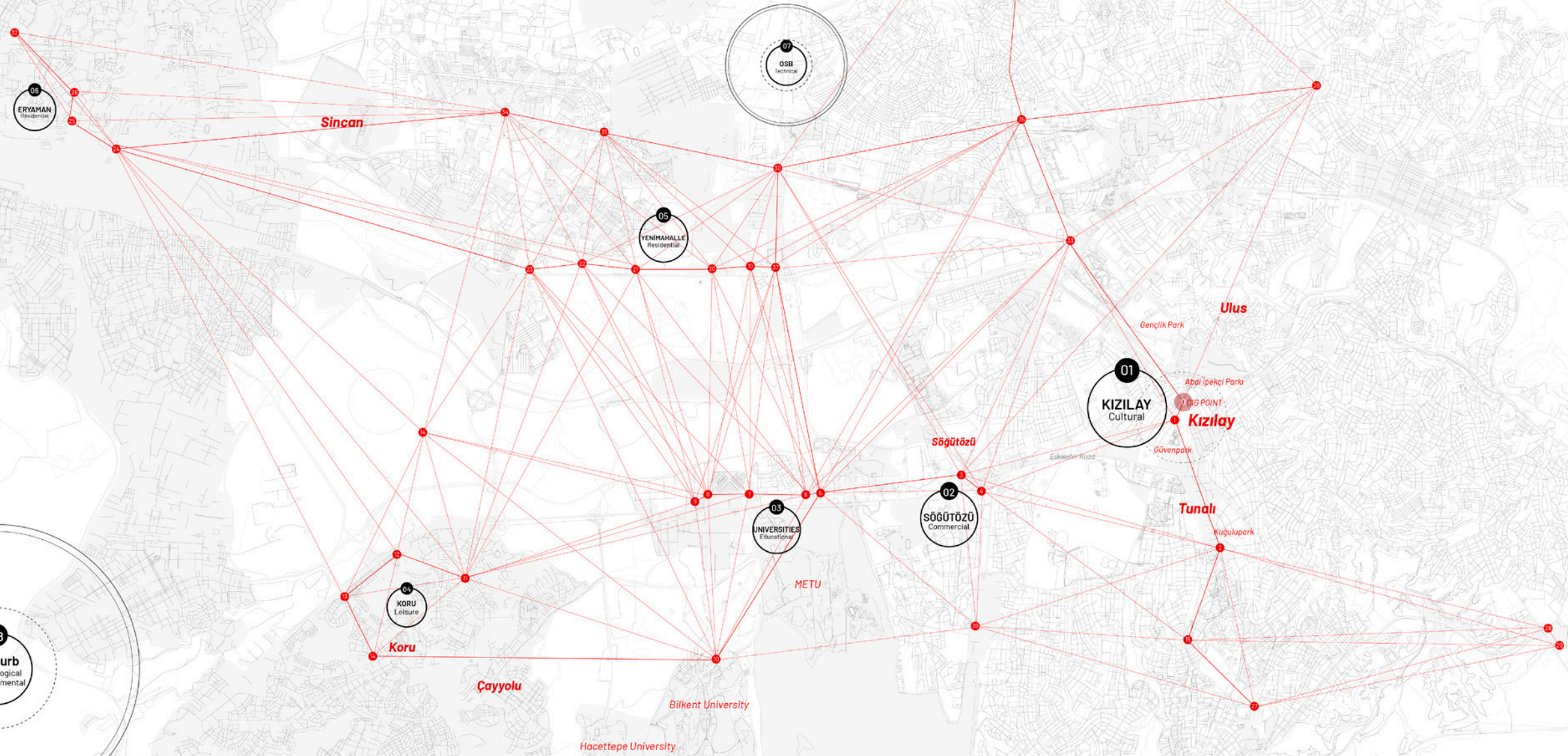
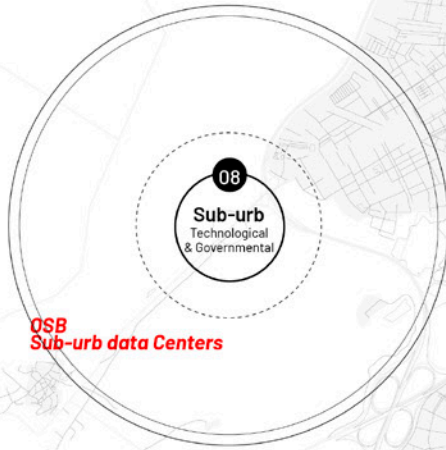
FUTURE
URBAN DATA FARMS
As the new-gen urban typology
How might we design the post-digital datascape that will provide the togetherness of data and public and foster the new generations to be born inside data?

B.2. [OPPORTUNITY:] Shopping mall network of Ankara

Malls in proximity form different city centers of cultural, commercial, technical, governmental, residential, educational, leisure,... This poses an opportunity to form a balanced and sustainable data network within the city.

SHOPPING MALLS OF ANKARA

- 1 Kızılay AVM
- 2 Karum AVM
- 3 Armada AVM
- 4 Next Level AVM
- 5 Cepa AVM
- 6 Kentpark AVM
- 7 Marden AVM
- 8 Tepe Prime AVM
- 9 Mahall AVM
- 10 Bilkent Center
- 11 Galleria AVM
- 12 Gordon AVM
- 13 Mesa Plaza AVM
- 14 Arcadium AVM
- 15 Atakule
- 16 One Tower AVM
- 17 Panora AVM
- 18 Kuzu Effect AVM
- 19 ACity AVM
- 20 Park Vera AVM
- 21 Carrefour AVM
- 22 Batı Park AVM
- 23 Vega Cadde AVM
- 24 Optimum AVM
- 25 Eryaman AVM
- 26 Dolphin AVM
- 27 365 AVM
- 28 Anatolium AVM
- 29 Nata Vega AVM
- 30 Podium AVM
- 31 Batıkent AVM
- 32 Atlantis AVM
- 33 Ankaralı AVM
- 34 Metromall AVM
- 35 Antares AVM
- 36 Forum Ankara AVM
- 37 Gımart AVM
- 38 Vega AVM Subayevleri
- 39 Taurus AVM

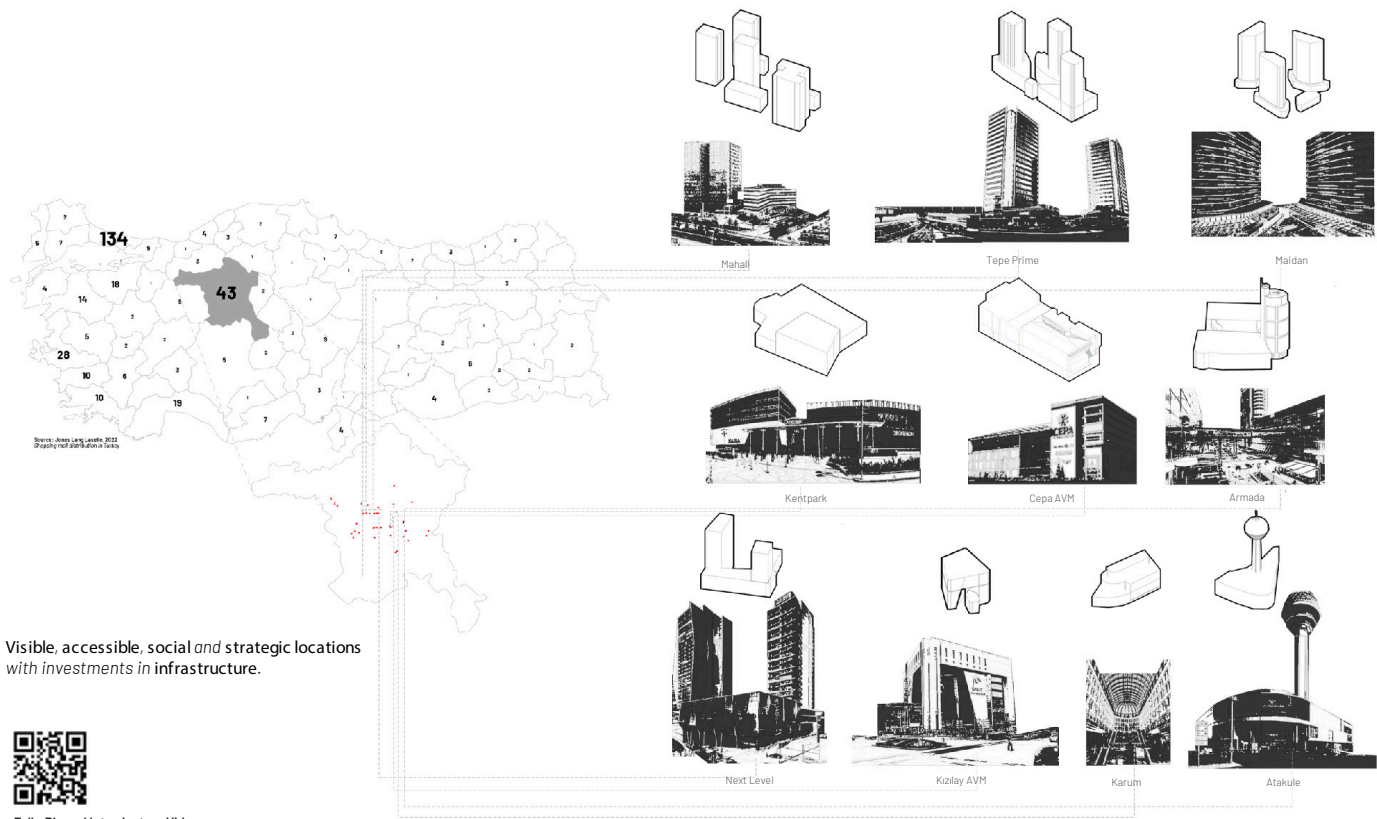


Urban scenario iteration drawing where "data farms" are injected into the shopping malls of the city



C. SHOPPING MALL TRANSFORMING STRATEGIES AND DATA INFRASTRUCTURE

C.1. [OPPORTUNITY:] Malls as an infrastructure
the new public "public?" centers

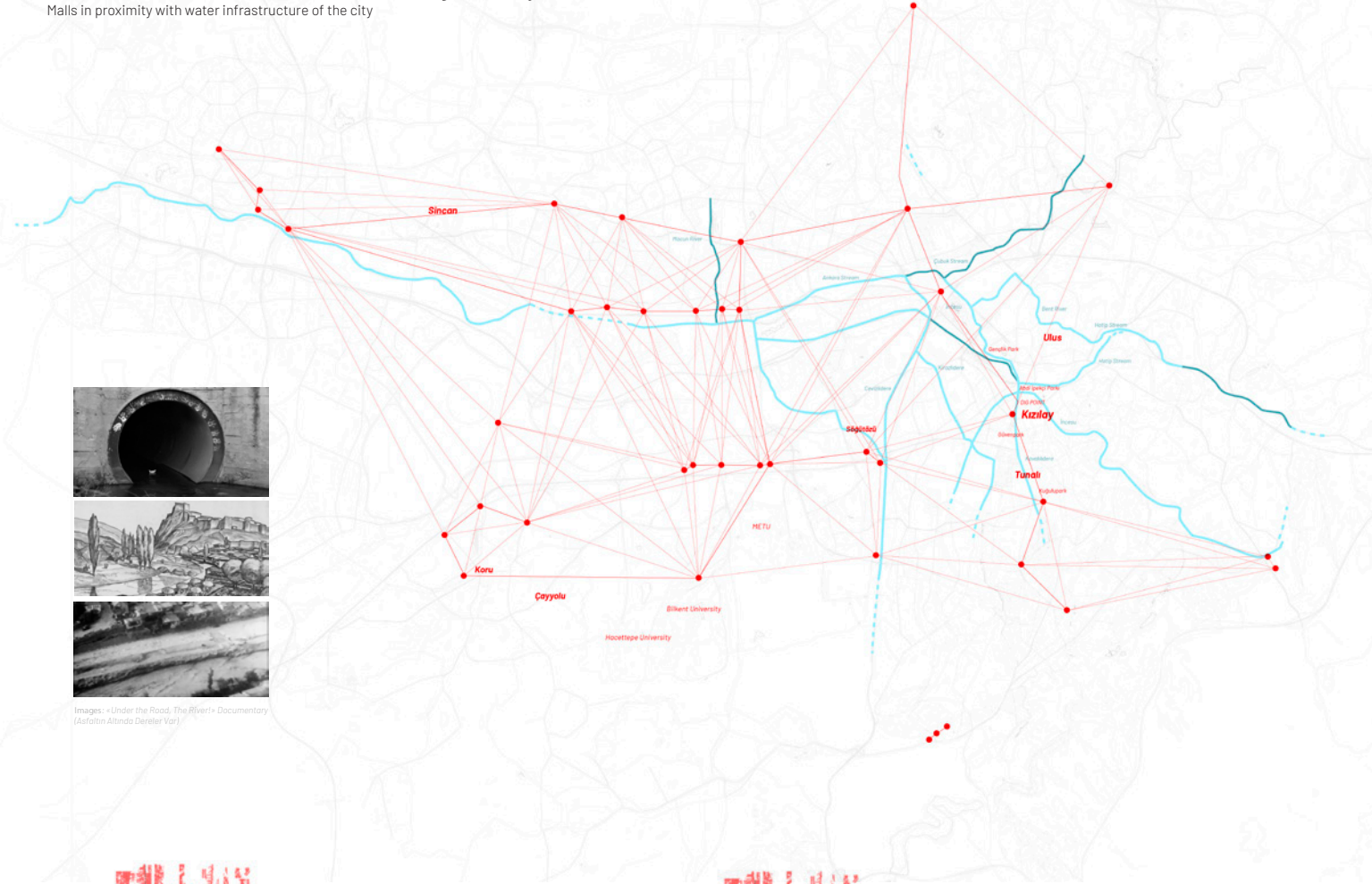


Visible, accessible, social and strategic locations
with investments in infrastructure.



Fall - Phase I Introductory Video
REIMAGINING THE POST-ANTHROPOCENE INTERFACE:
HACKINGTHEMALL

C.2. [OPPORTUNITY:] Water as a source and the strongest memory
Malls in proximity with water infrastructure of the city



Images: «Under the Road, The River» Documentary
(Asafotun Altında Dereler Var)

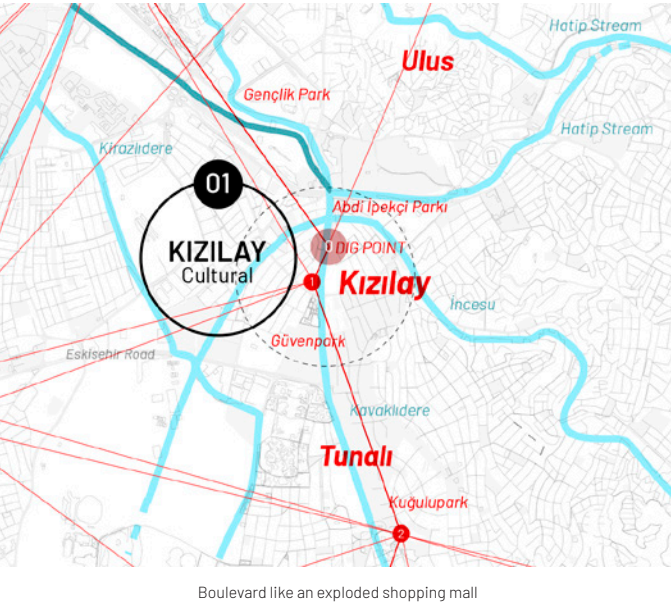
C.1. [REASONING:] Malls as an infrastructure

«(...) the smooth functioning of the metaverse **cannot only rely** on the hyperscale data centres located in remote locations. The latency problem requires **shortening the distance** between data centres and end users. As a result, there is a renewed interest in **micro data centres, edge computing, and other decentralised infrastructure**, which bring data storage and usage closer. We will likely **have data centres in our houses or neighbourhoods** and have to rethink how to power them and manage security and ownership concerns. It is simultaneously a banal aspect of the metaverse and, to me, the most fascinating to discuss.»

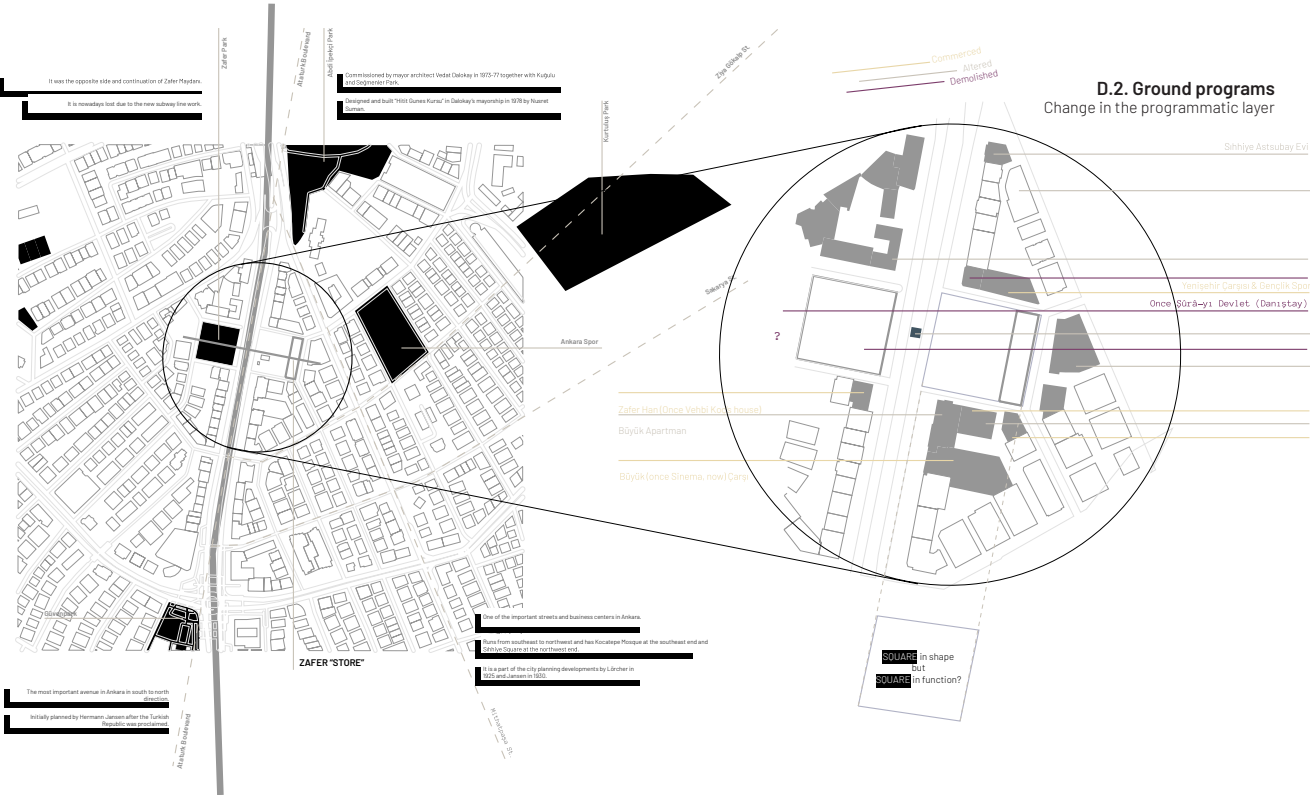
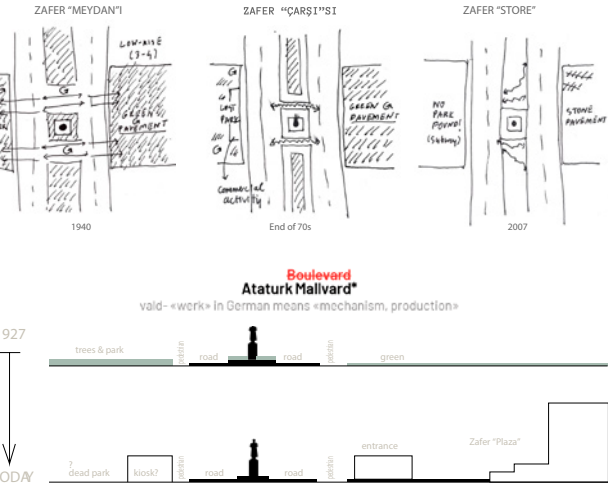
Marina Otero, Harvard GSD 2022 Wheelwright Prize Winner

D. UNDERSTANDING THE CONTEXT
"DIG POINT": ZAFER SQUARE, ZAFER MALL & ATATURK BOULEVARD

D.1. Dig point-Boulevard interpretation
Ataturk Boulevard as an exploded shopping mall

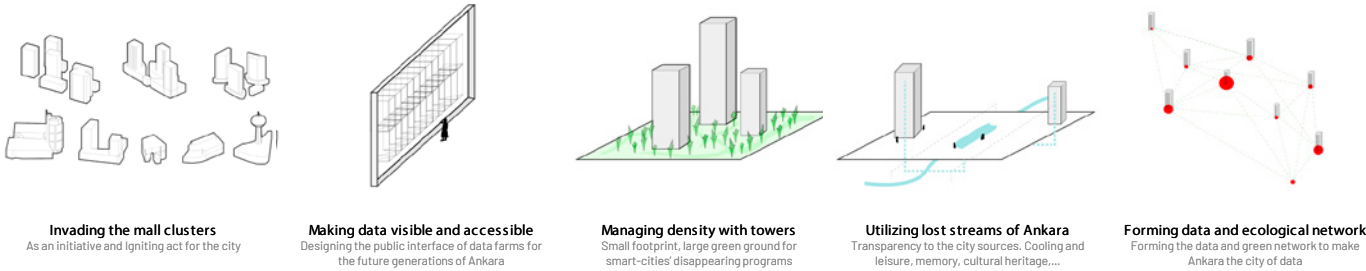


D.4. Excavation Entities
Understanding the identity change in time.

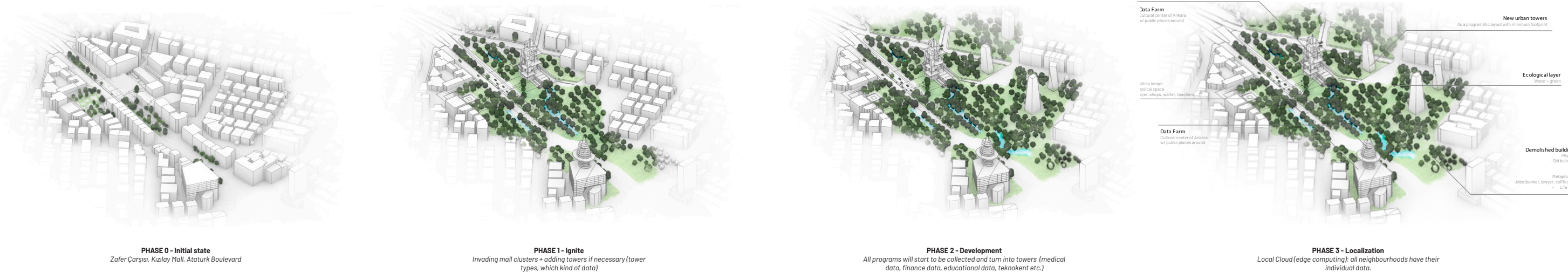


D.2. Ground programs
Change in the programmatic layer

D.5. Strategies
Five design strategies that brings transparency to the city.



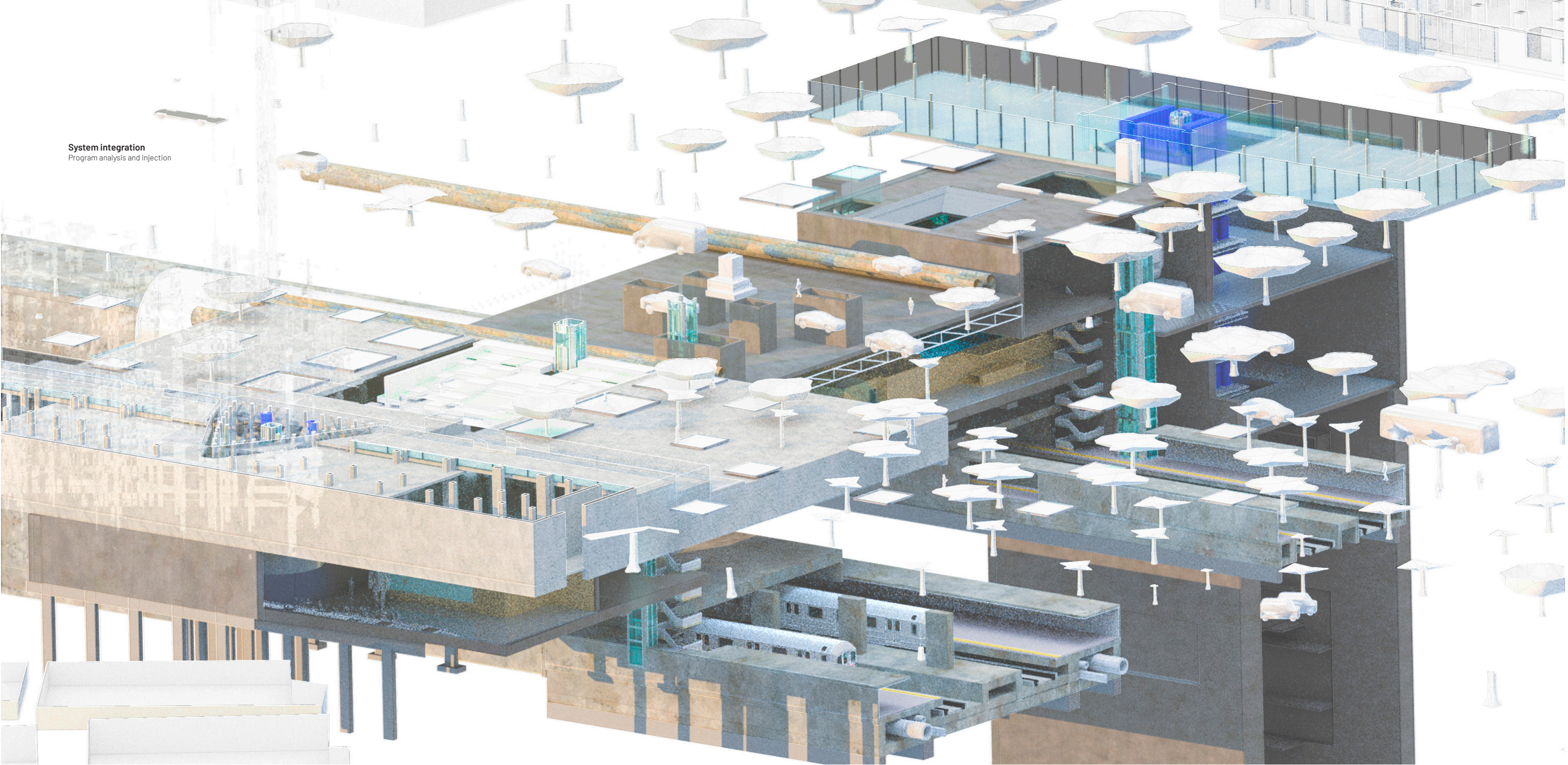
Phases
Implementation order and future predictions



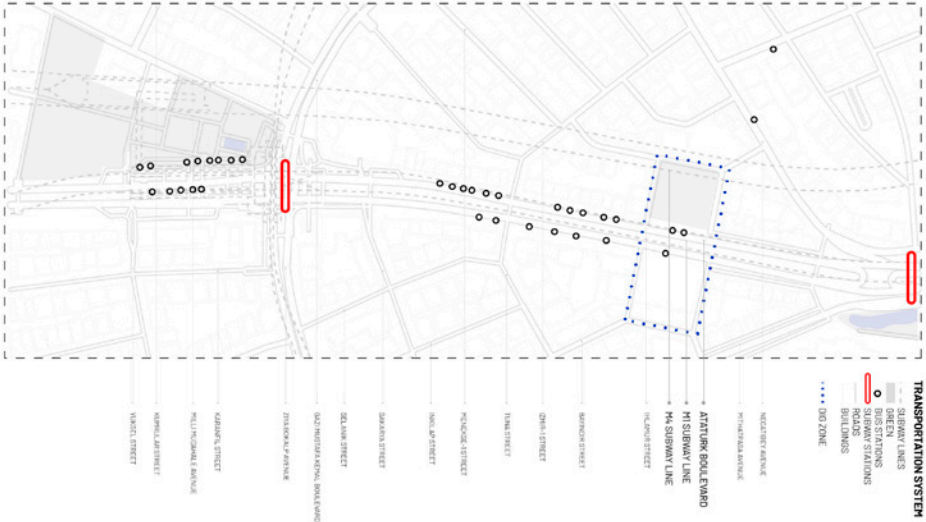
[OPPORTUNITY:] New ecological network
Forming ecological corridors with water and green transparency

- Shopping malls
- New urban green

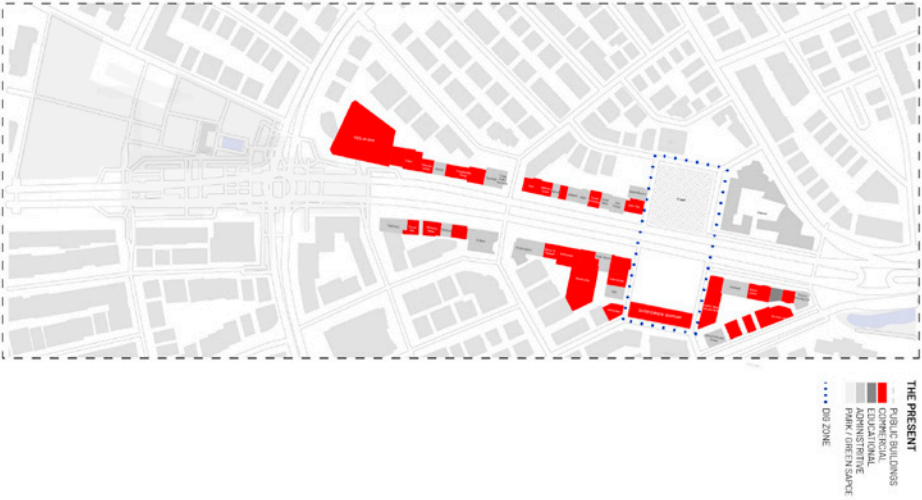
System integration
Program analysis and injection



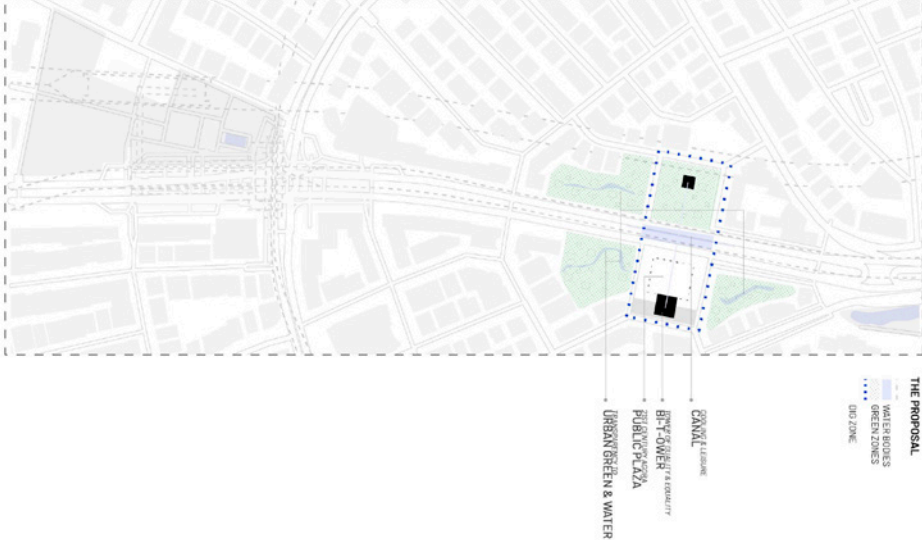
TRANSPORTATION SYSTEM



THE «PRESENT» PROGRAM

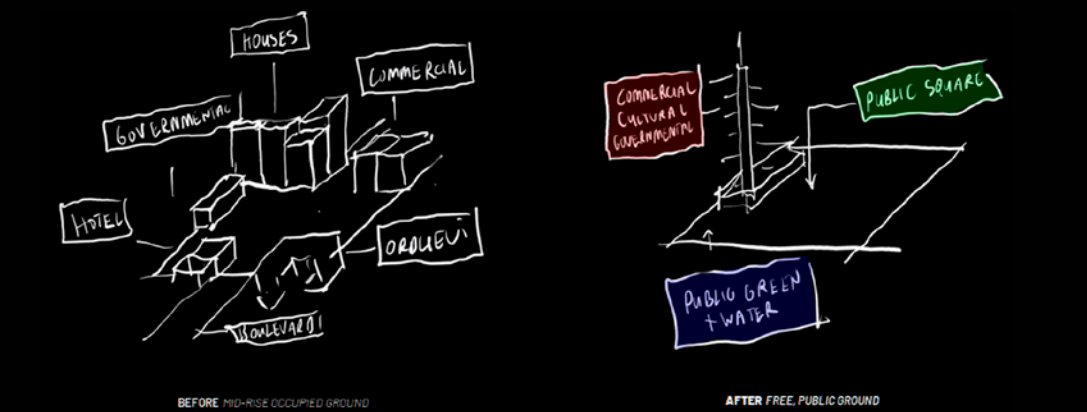


THE «PROPOSAL»



E. THE ARCHITECTURE OF THE “BI-T-OWER”

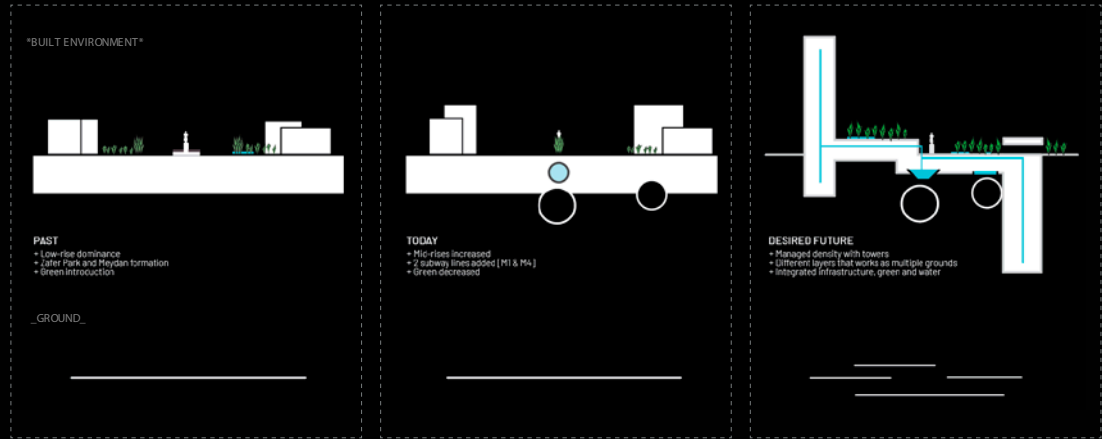
E.1. [IDEA:] Letting the groung free: BI-T-OWER
Change in the programmatical layer



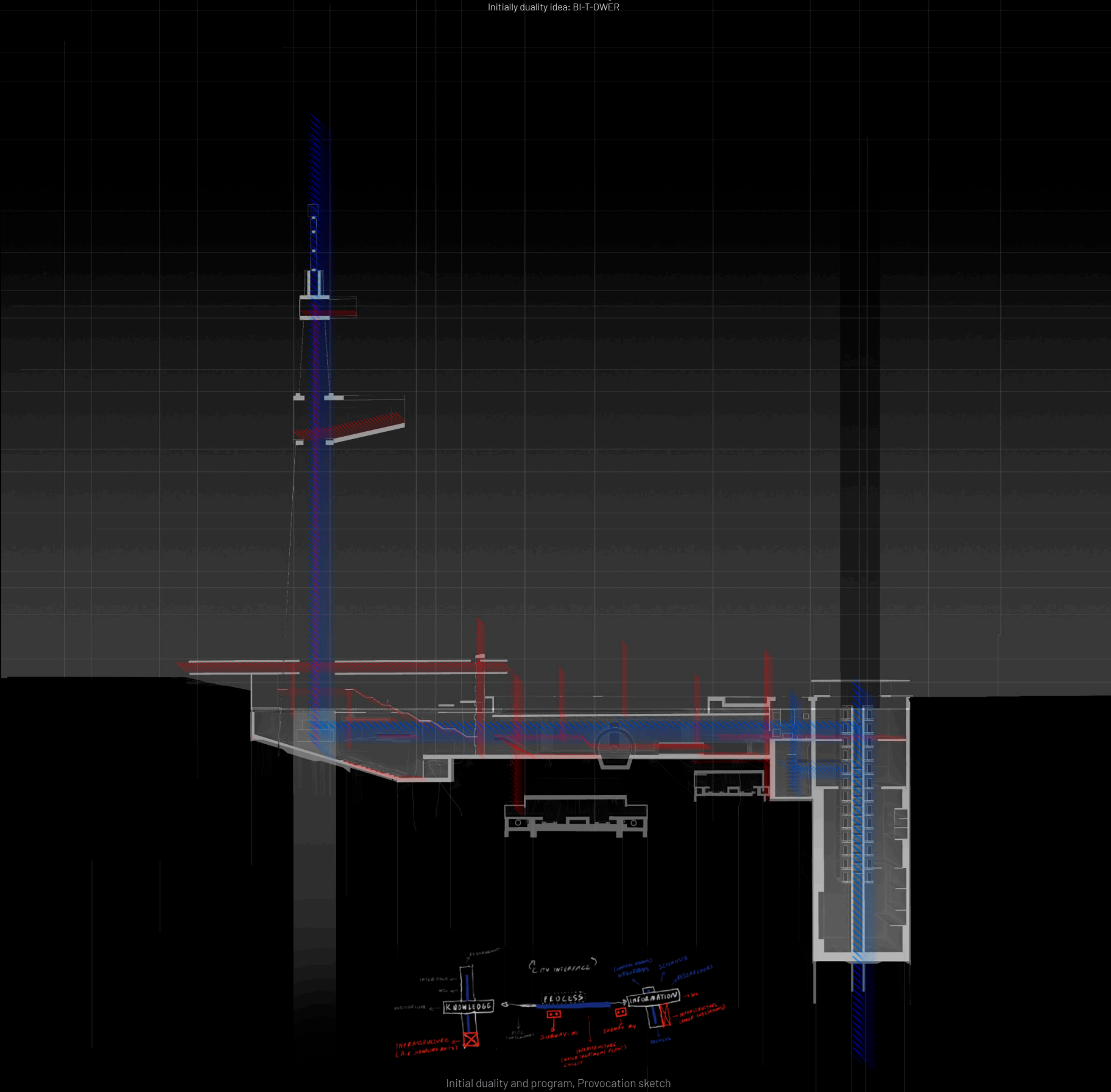
E.2. Main design ideas
To generate the desired identity



E.3. Proposal diagram
Step-by-step development



E.4. Provocation drawings
Initially duality idea: BI-T-OWER

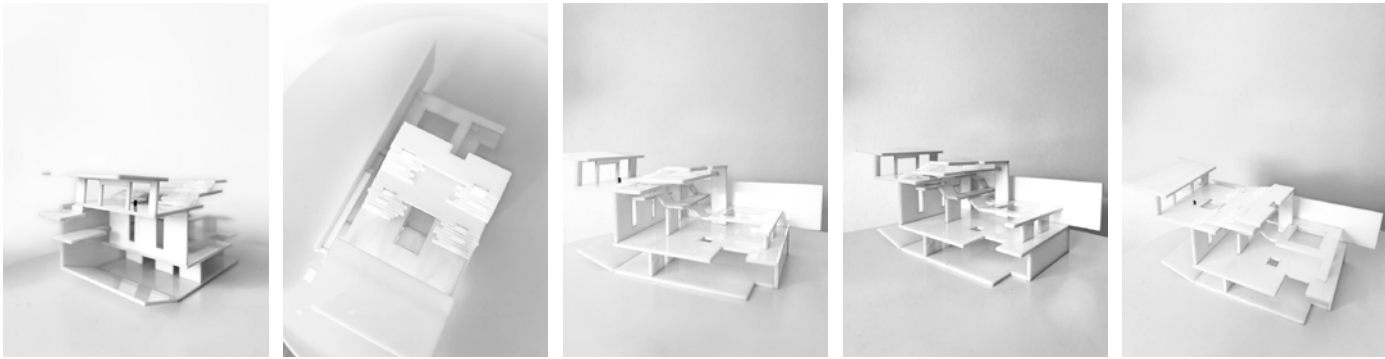


Physical model making
Space and site arrangement



Model - 1: Understanding landscape and positioning. A direct reference to the idea of "emptying the ground to the public green"

(Urban base: Dense foam, 70x100 cm, CNC milling machine.
Scratch tower model: White filament, 3D print)



Physical model - 2: Ideation on space configuration of the transition between information and knowledge. With what sort of architectural configurations may the system smoothly carry people inside?

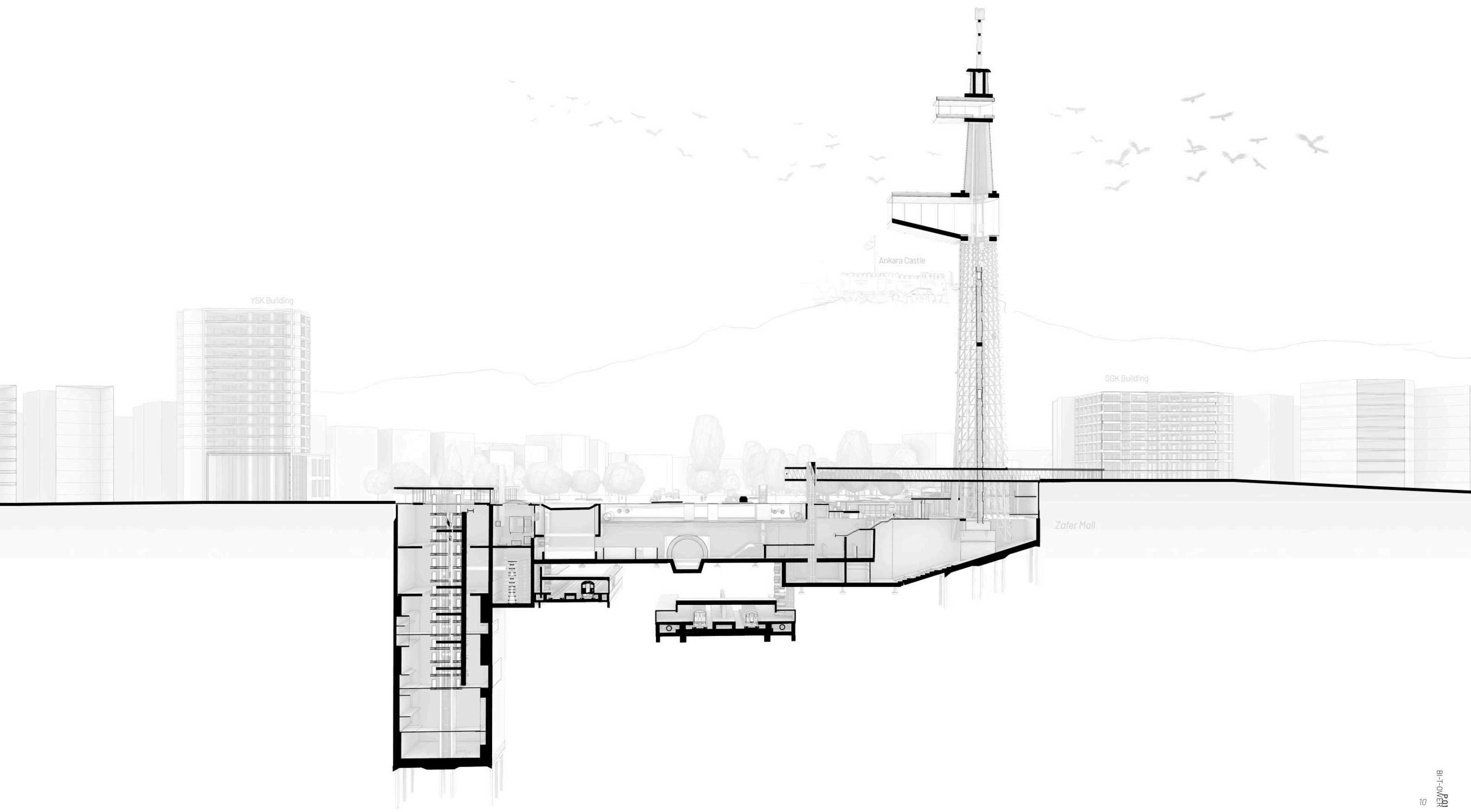
(System: White and transparent plexiglass, 3-5mm, Laser cut
Stairs: White filament, 3d print)

E.5. Methodology
Invading in a positive manner

- Keeping the **solid-box** identity of the mall
- Bringing **productive programs** back like in the past.
- Honoring it while **providing views** and **public routes** around.
- The **flat-roof** of the modernist building will be **open to the public** and **direct access** will be given to the tower.



Section perspective N
SP as a design tool

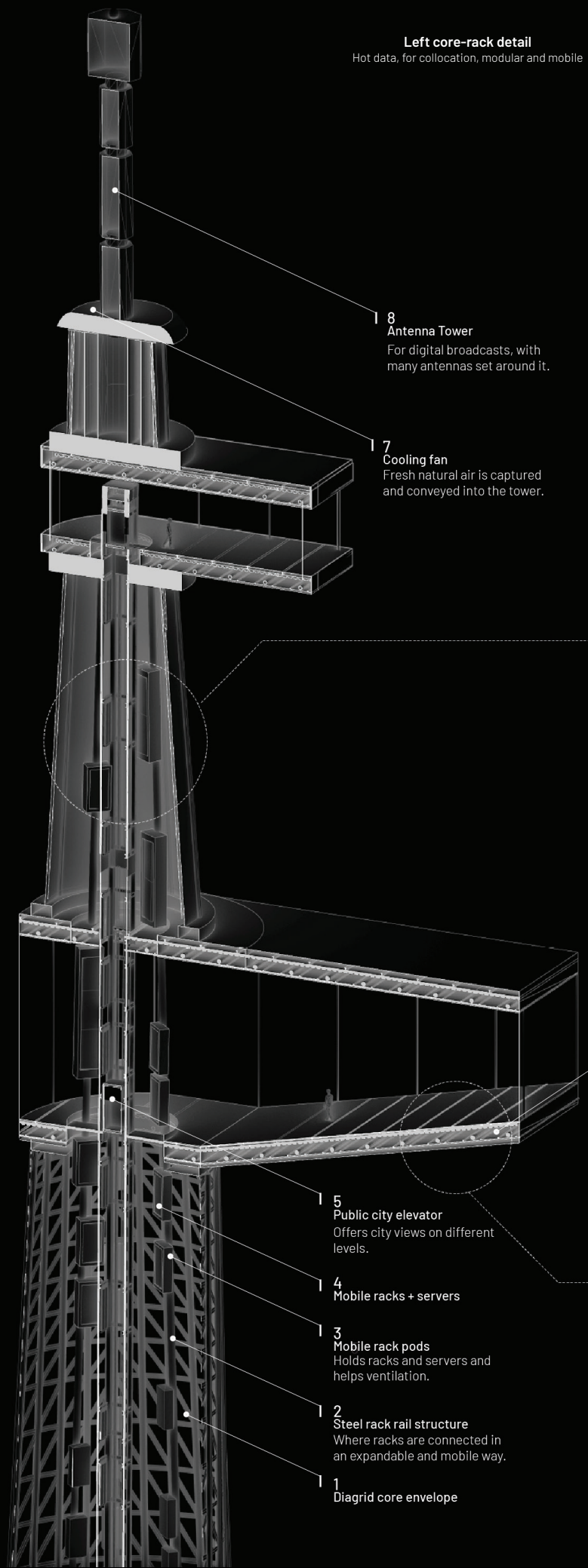


Section perspective S
SP as a design tool



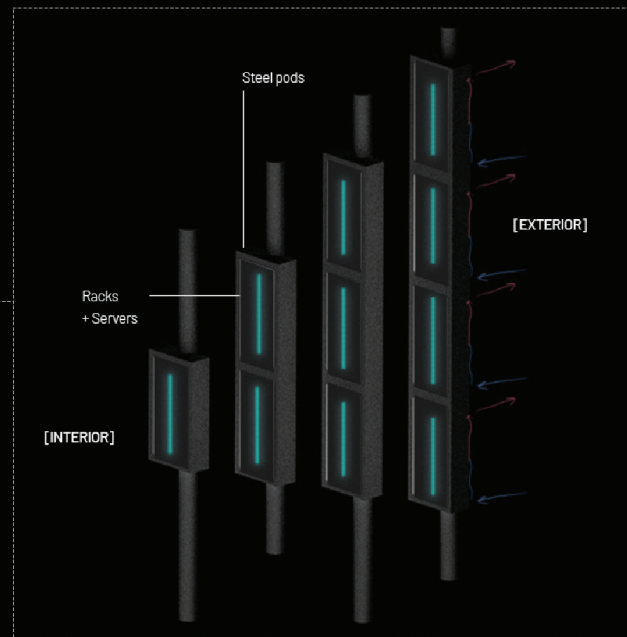
Left core-rack detail

Hot data, for collocation, modular and mobile

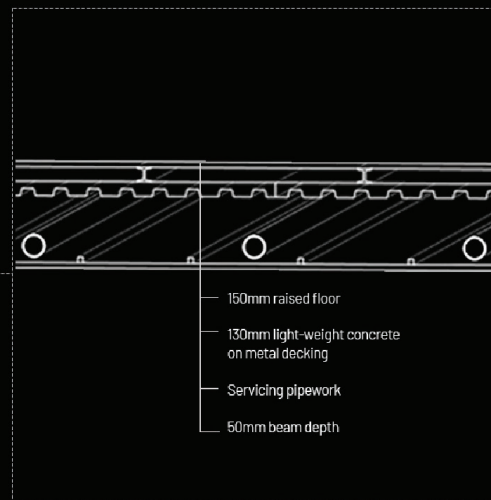


8 Antenna Tower
For digital broadcasts, with many antennas set around it.

7 Cooling fan
Fresh natural air is captured and conveyed into the tower.



6 Floor slab
~150mm raised floor
~130mm light-weight concrete on metal decking
~Servicing pipework
~50mm beam depth



5 Public city elevator
Offers city views on different levels.

4 Mobile racks + servers

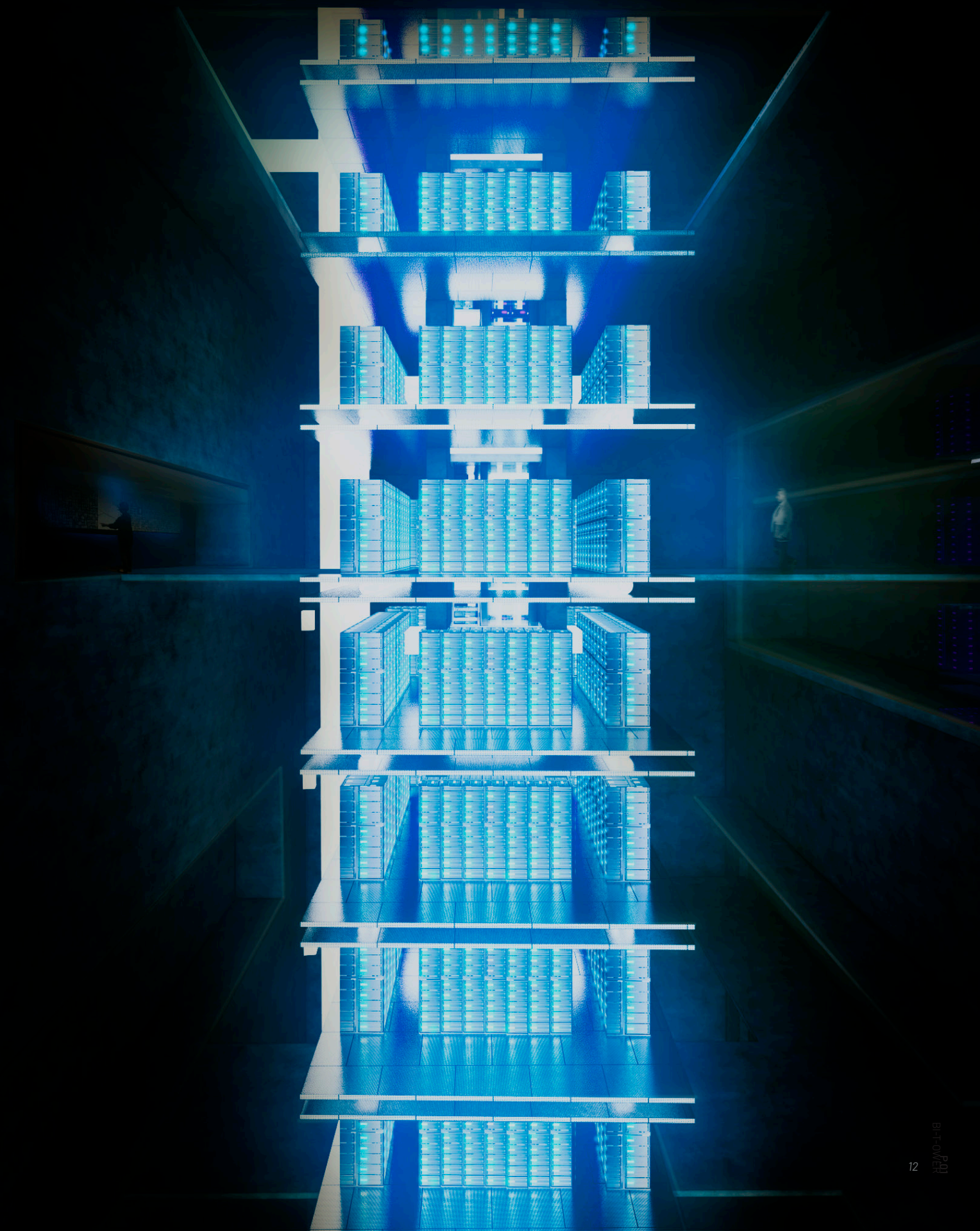
3 Mobile rack pods
Holds racks and servers and helps ventilation.

2 Steel rack rail structure
Where racks are connected in an expandable and mobile way.

1 Diagrid core envelope

Right core racks layout

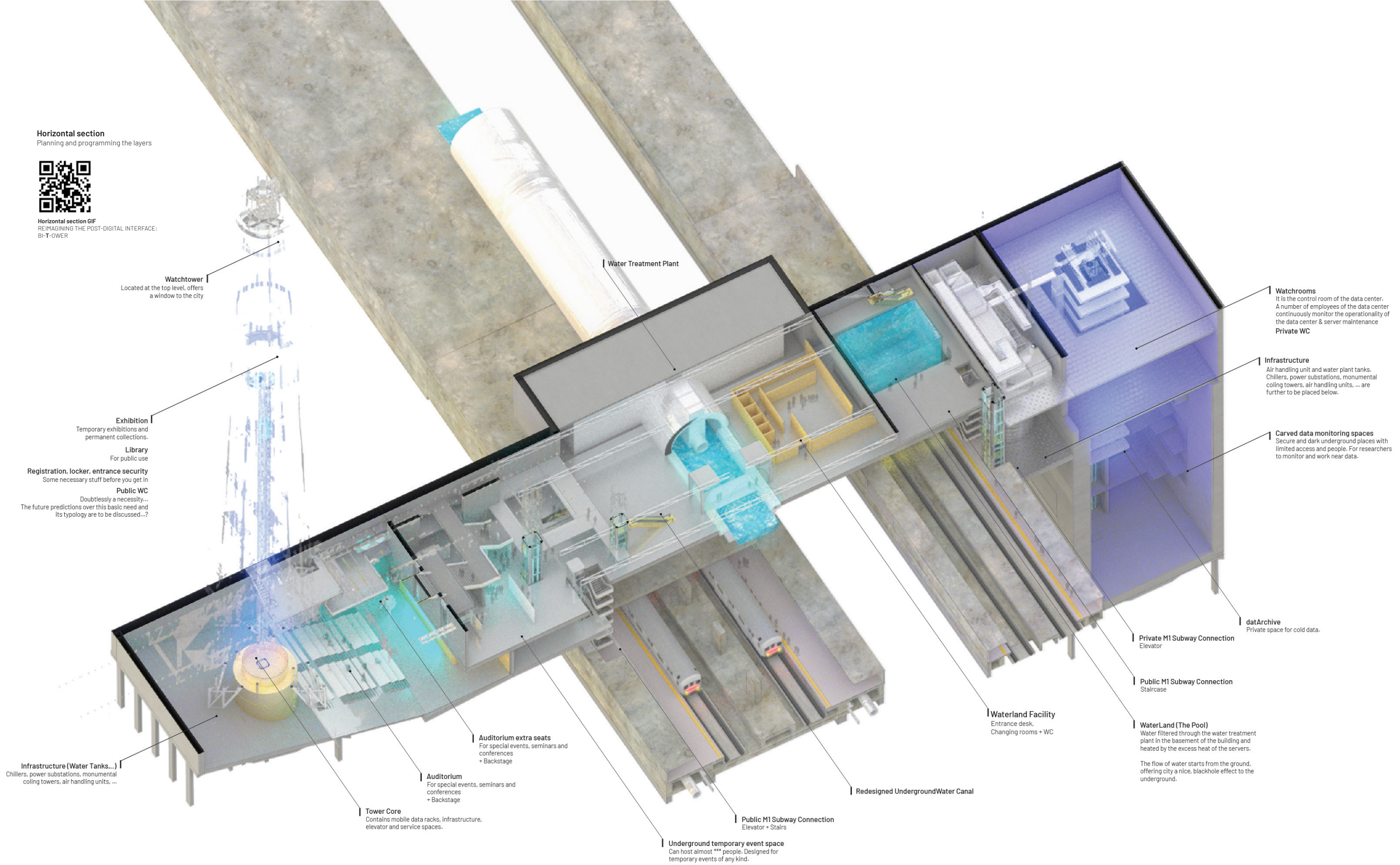
Cold data, for archival purposes



Horizontal section
Planning and programming the layers



Horizontal section GIF
REIMAGINING THE POST-DIGITAL INTERFACE:
BI-T-OWER



Watchtower
Located at the top level, offers
a window to the city

Water Treatment Plant

Exhibition
Temporary exhibitions and
permanent collections.

Library
For public use

Registration, locker, entrance security
Some necessary stuff before you get in

Public WC
Doubtlessly a necessity...
The future predictions over this basic need and
its typology are to be discussed...?

Infrastructure (Water Tanks,...)
Chillers, power substations, monumental
cooling towers, air handling units, ...

Auditorium extra seats
For special events, seminars and
conferences
+ Backstage

Auditorium
For special events, seminars and
conferences
+ Backstage

Tower Core
Contains mobile data racks, infrastructure,
elevator and service spaces.

Public M1 Subway Connection
Elevator + Stairs

Underground temporary event space
Can host almost *** people. Designed for
temporary events of any kind.

Redesigned Underground Water Canal

Waterland Facility
Entrance desk,
Changing rooms + WC

Private M1 Subway Connection
Elevator

Public M1 Subway Connection
Staircase

WaterLand (The Pool)
Water filtered through the water treatment
plant in the basement of the building and
heated by the excess heat of the servers.

The flow of water starts from the ground,
offering city a nice, blackhole effect to the
underground.

datArchive
Private space for cold data.

Watchrooms
It is the control room of the data center.
A number of employees of the data center
continuously monitor the operability of
the data center & server maintenance
Private WC

Infrastructure
Air handling unit and water plant tanks.
Chillers, power substations, monumental
cooling towers, air handling units, ... are
further to be placed below.

Carved data monitoring spaces
Secure and dark underground places with
limited access and people. For researchers
to monitor and work near data.

Horizontal section
Planning and programming the layers



Horizontal section GIF
REIMAGINING THE POST-DIGITAL INTERFACE:
BI-T-OWER

Watchtower
Located at the top level, offers
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The future predictions over this basic need and
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Co-working zone for e-offices
I-rises are taken away from the zone as it is
at most of them were poor in condition and
their program was heavily destructed.
It is managed by the tower typology as the
a place to the old neighbours (yet a smaller
arently .In the very near future, the existing
offices will not work as they do now. So it is
a one-person table and a small rack shelfe
would be very much enough for them.

Meeting rooms
For office personel

Tower Core
Contains mobile data racks, infrastructure,
elevator and service spaces.

InfraWindow

Security
Data Researchers Data Access Point/Zone
Data Analysts Office
+ Meeting rooms

Infrastructure
Air handling unit and water plant tanks.
Chillers, power substations, monumental
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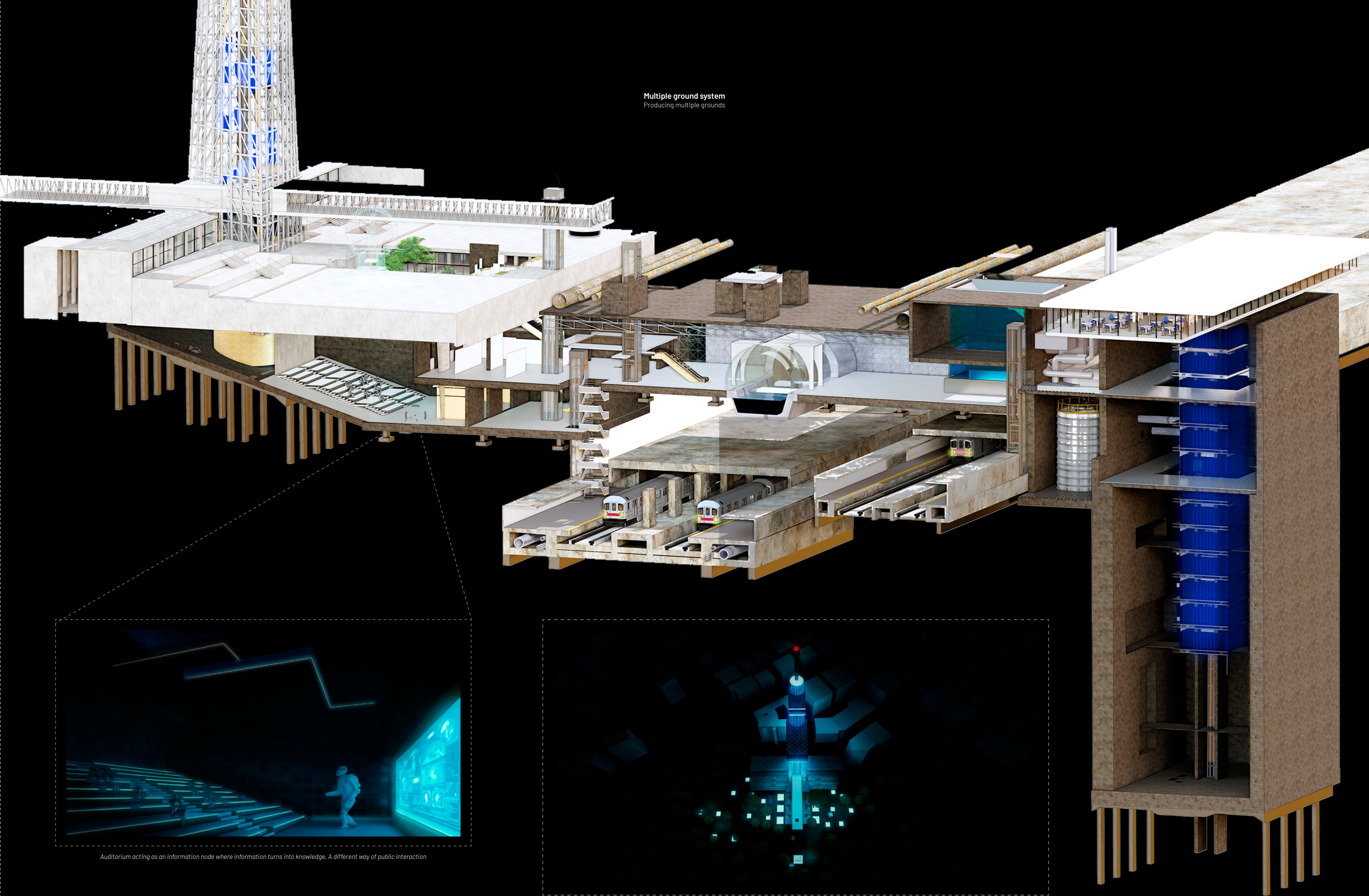
GroundWatch

GroundLights

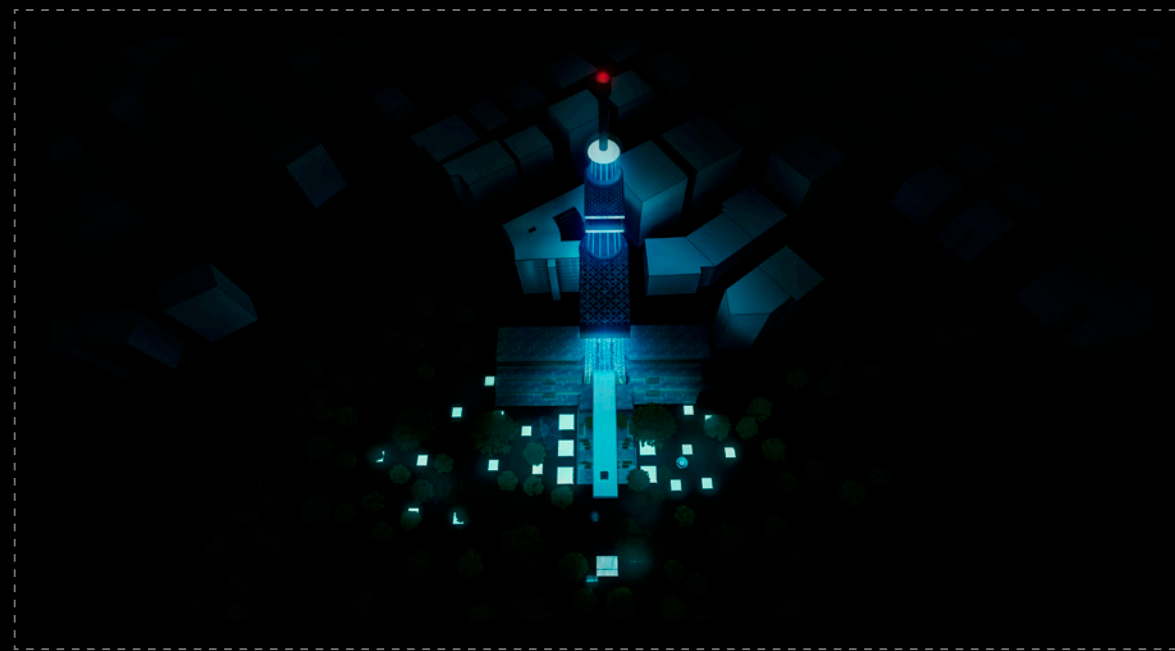
GreenAmphi

Public M1 Subway Connection
Elevator + Stairs

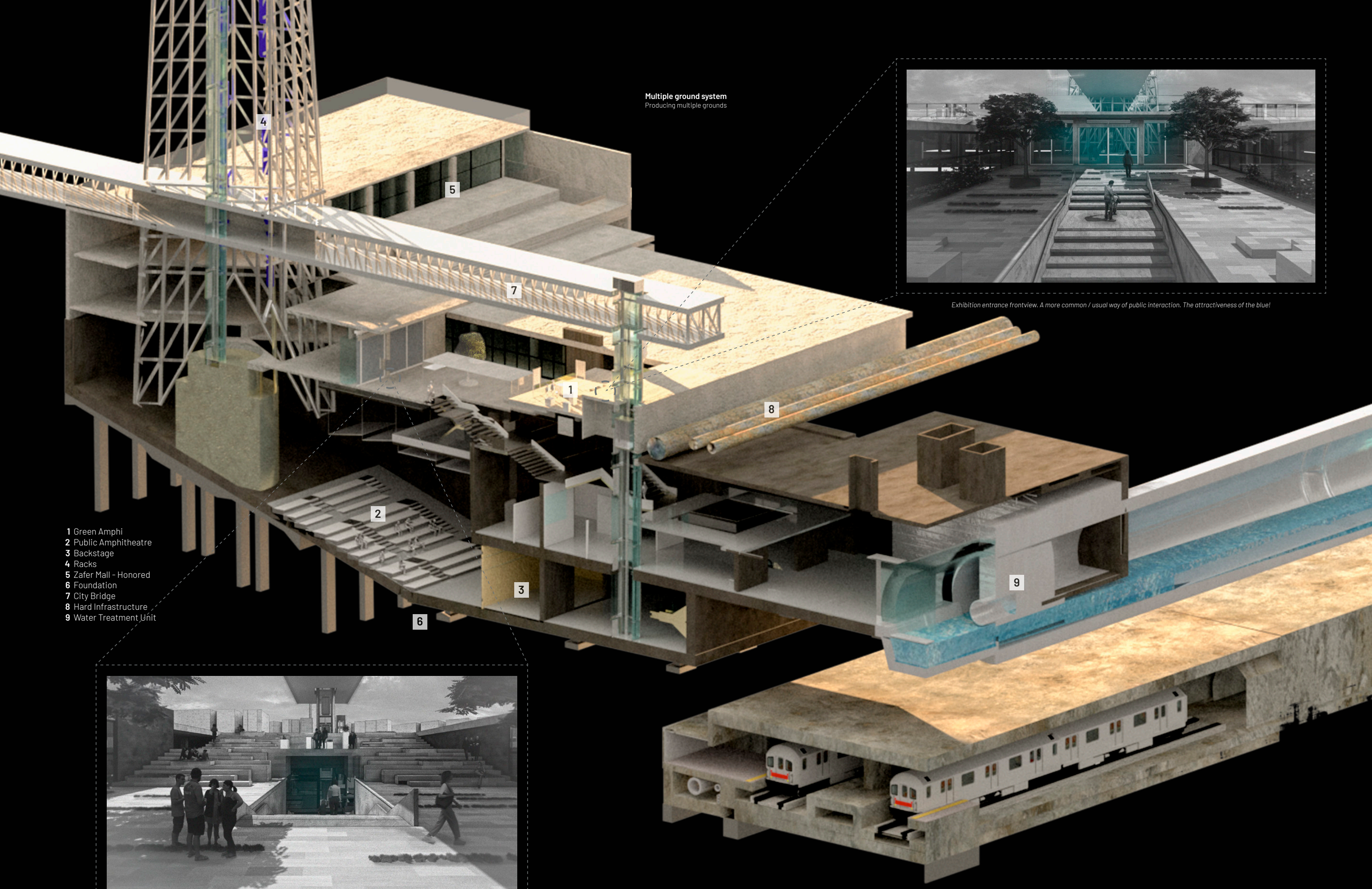
Multiple ground system
Producing multiple grounds



Auditorium acting as an information node where information turns into knowledge. A different way of public interaction

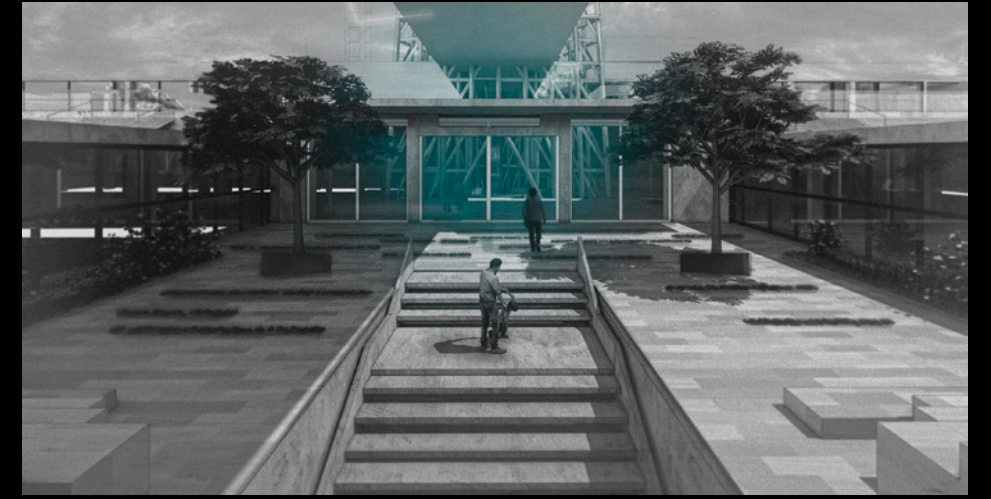


BI-TOWER at night

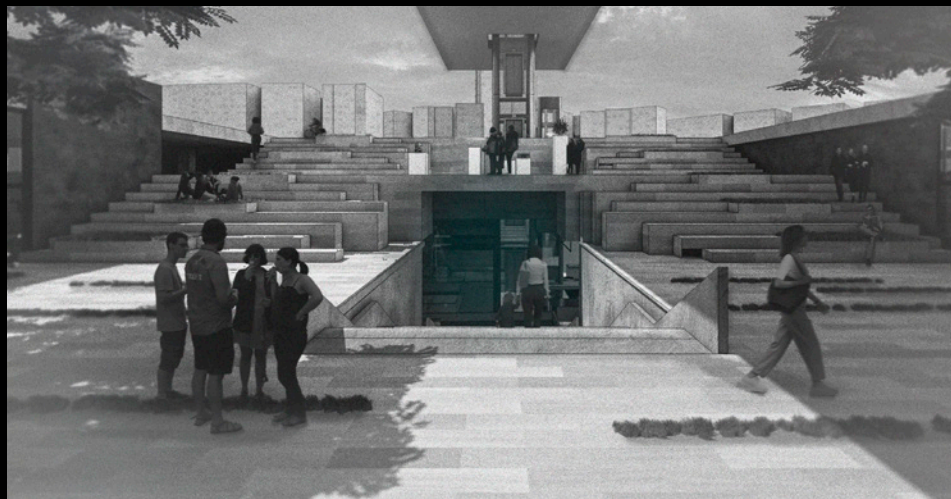


- 1 Green Amphi
- 2 Public Amphitheatre
- 3 Backstage
- 4 Racks
- 5 Zafer Mall - Honored
- 6 Foundation
- 7 City Bridge
- 8 Hard Infrastructure
- 9 Water Treatment Unit

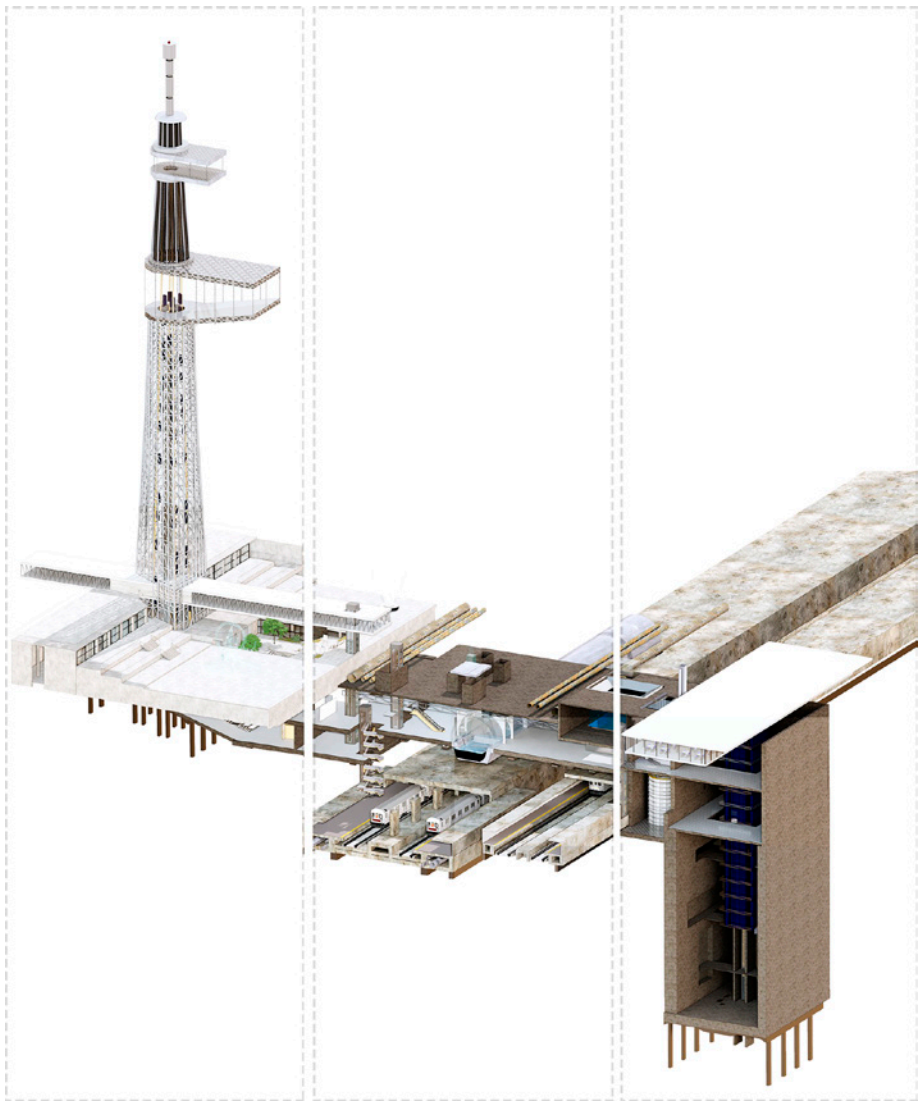
Multiple ground system
Producing multiple grounds



Exhibition entrance frontview. A more common / usual way of public interaction. The attractiveness of the blue!



Exhibition entrance backview. A more common / usual way of public interaction.



Fall - Phase I Booklet
REIMAGINING THE POST-ANTHROPOCENE INTERFACE:
HACKINGTHEMALL



Spring - Phase II Booklet
REIMAGINING THE POST-DIGITAL INTERFACE:
BI-T-OWER



Final research report, Digital print, 21 x 29.7 cm, 104 Pages, Hard cover, Hand-bound by nomatolye



P.02 enCOUNTERS

PROGRAM/TYPE
Music School (Conservatory)

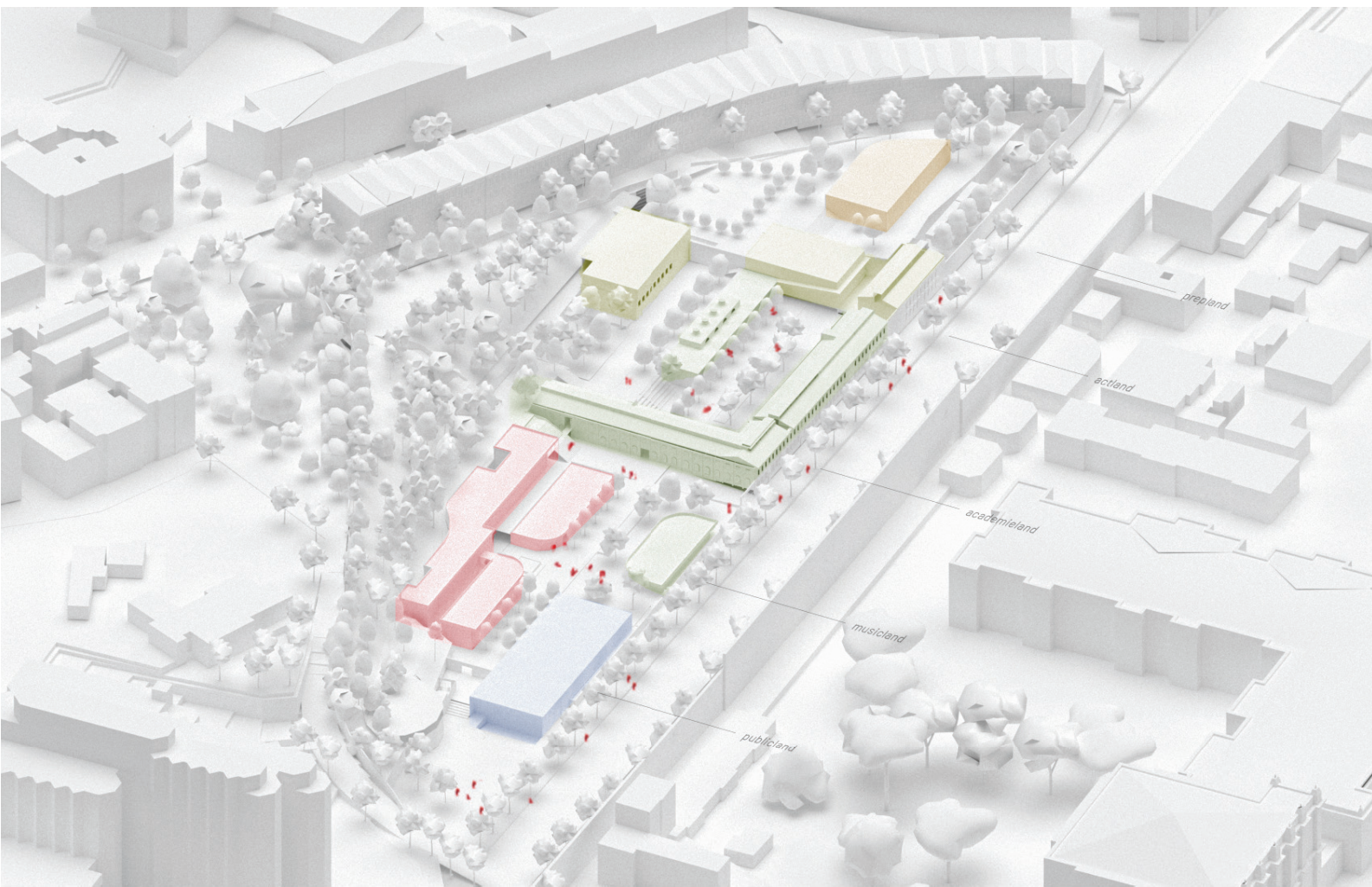
LOCATION
Besiktas, Istanbul

CRITIC
Assoc.Prof.Dr.Haluk Zelef (AA) zelef@metu.edu.tr
Ins.Yavuz Özkaya (Chairman of Assoc. for the Protection of Cultural Heritage)
Res.Asst.Melih Cin (IUE IKCU, METU) melihcin@metu.edu.tr
Res.Asst.Zeynep Yılmaz (Ozyegin, METU) yzyenep@metu.edu.tr

DATE
2021-2022 | Spring
Architectural Design IV

With the holistic attitude brought to the historical fragments on the site, **enCOUNTERS** aims to **create new cross-sections** for both citizens, conservatory students and academicians that can be experienced by encounters created by the relations of open and closed spaces.

By preserving the green and historically layered image of the site, the need for the musicians and performers to be together is met by offering **common open spaces and squares between architectural spaces placed on the sides of the main alley**. By establishing different relationships with the encounter squares, architectural spaces, and alley; an architectural attitude that creates **spatial continuity** between different historical fragments, new additions and the main street has been revealed.



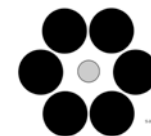
Research reading the site

On the meaning of "context"

context noun.
conditions & factors

con-
together
texere
to weave

contexus



same circle, different context.

sociological
political
density-cal
demographical
demand-ical

formal
topographical
material
typological
color-al
height-al

reference_surroundings_effective_alien_discursive
compositional_fitting_interact_immersion_social fabric
modern heritage_uniqueness

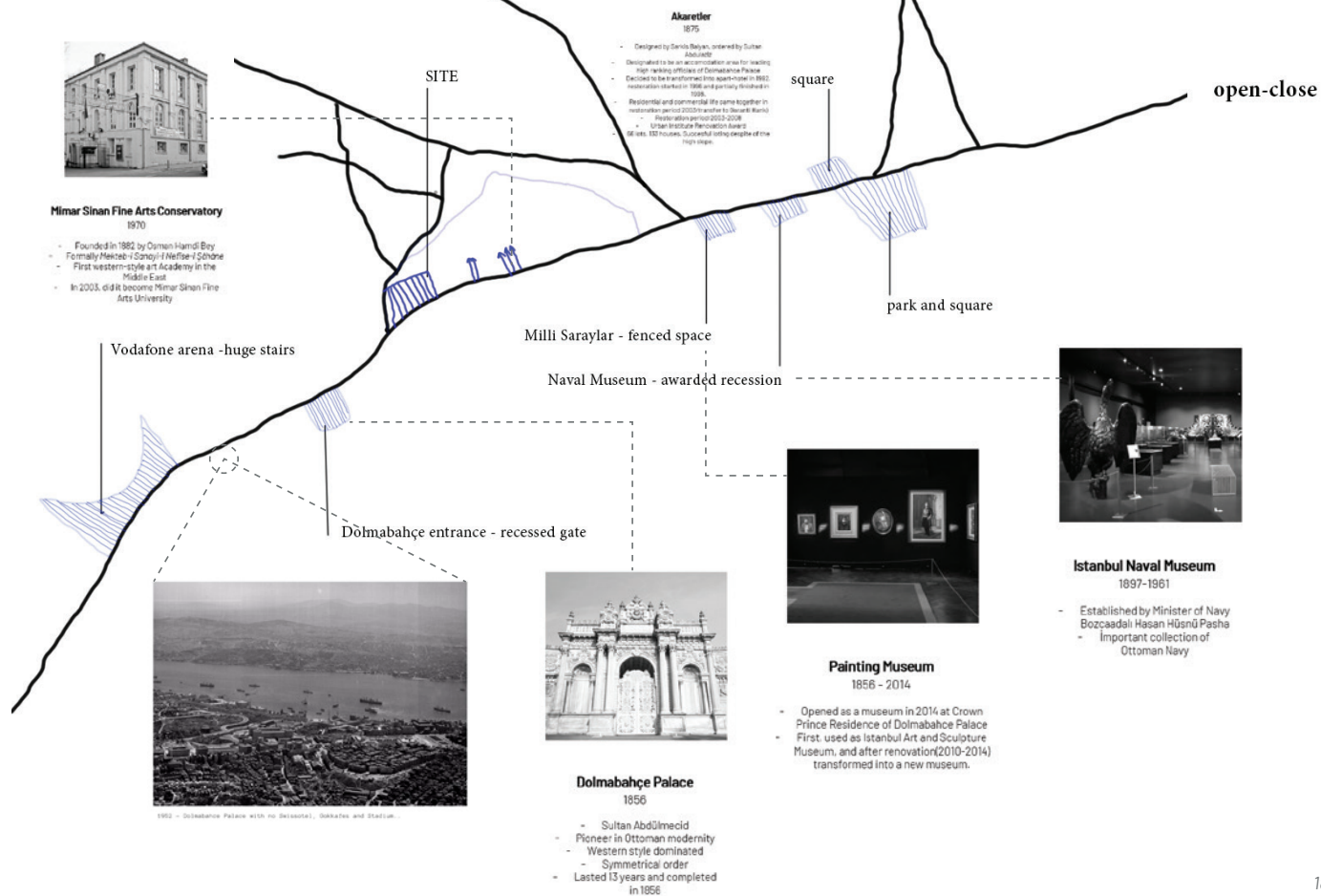
interact or ignore?
harmony or contrasting?
neutral or referential?
careful or overlooking?
embrative or exclusionist?
local/vernacular or universal/global?
fragment said show - semi-critical engagement
Beaubourg or Bilbao?
Hayden Kohn

Understanding where and why to design



palace
backyard
row house
stadium
Bosphorus
pier

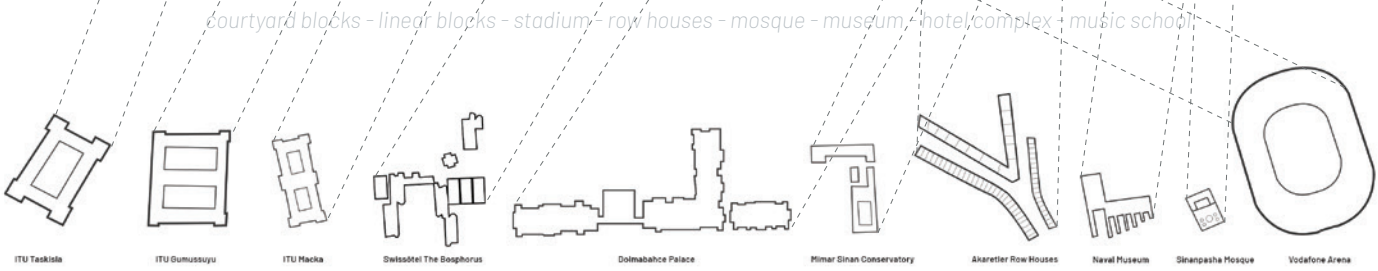
Understanding the values
Public voids and historical fragments



Analysis

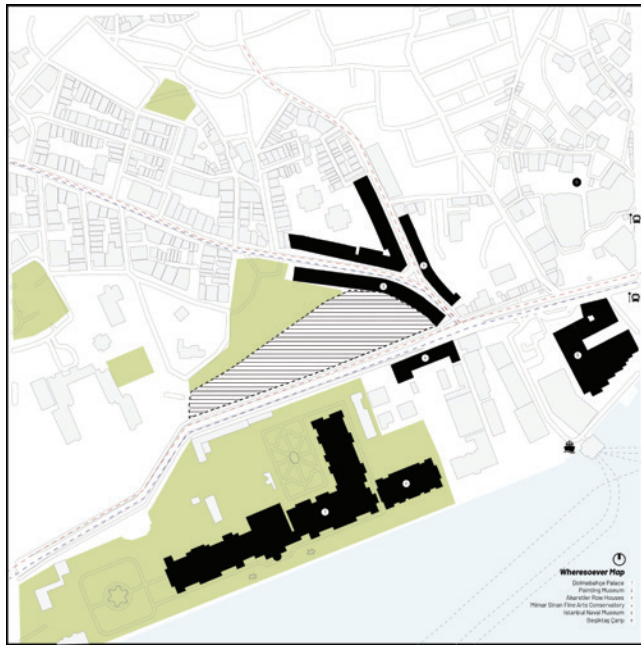
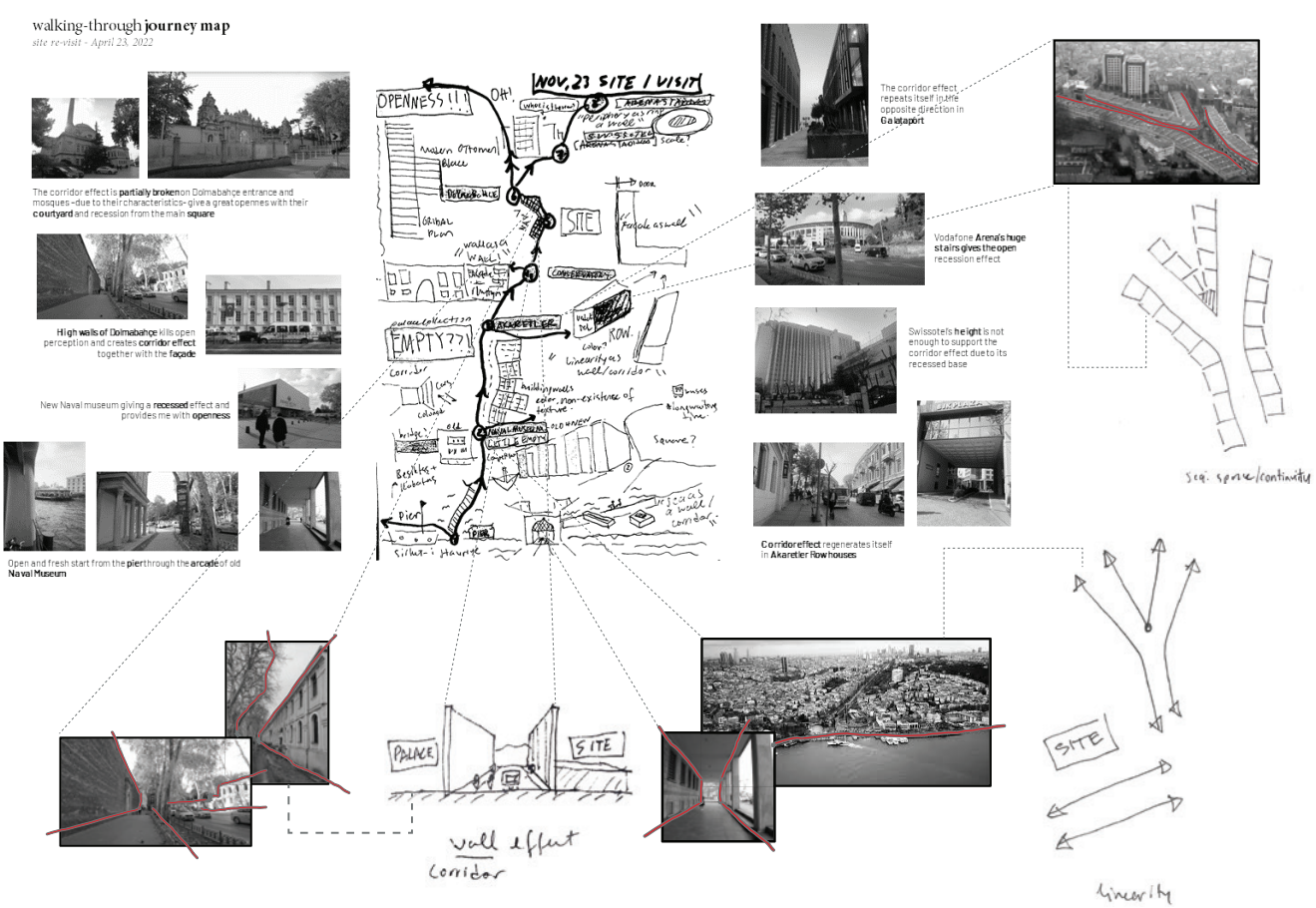
understanding the site

The site is located at a very dense area in terms of formal, social and historical characteristics. It serves many dimensions that could be considered as design inputs.

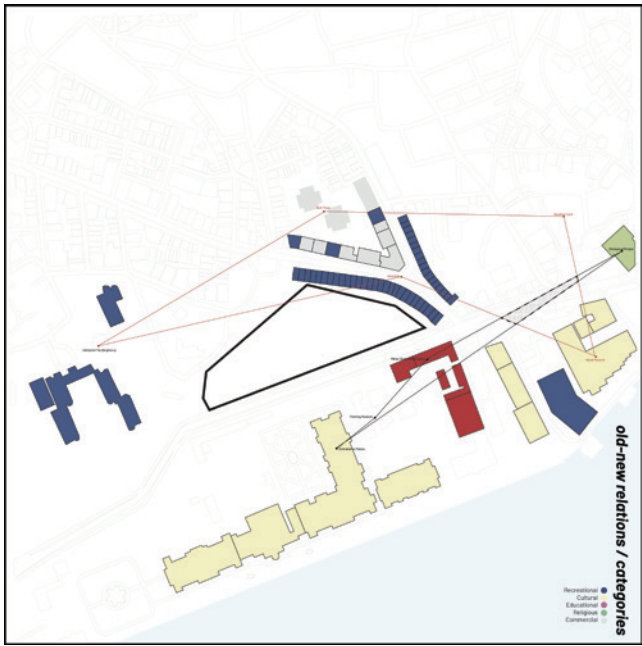


Observations

experiencing the site



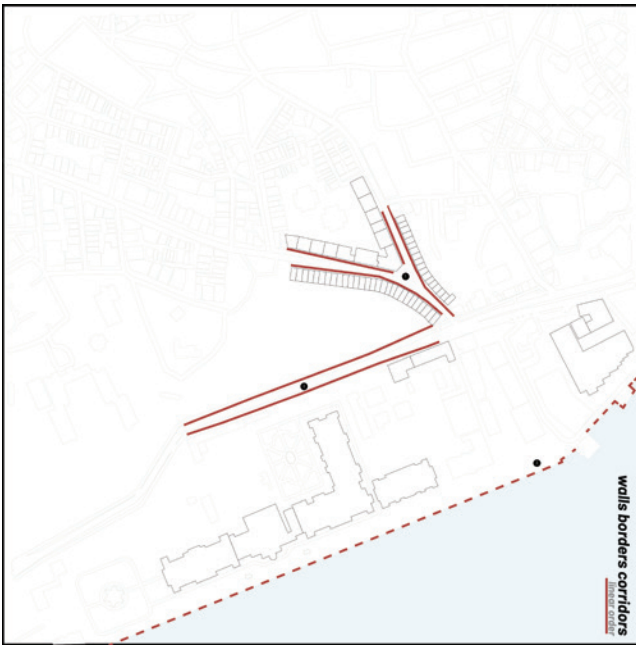
/ whatsoever map



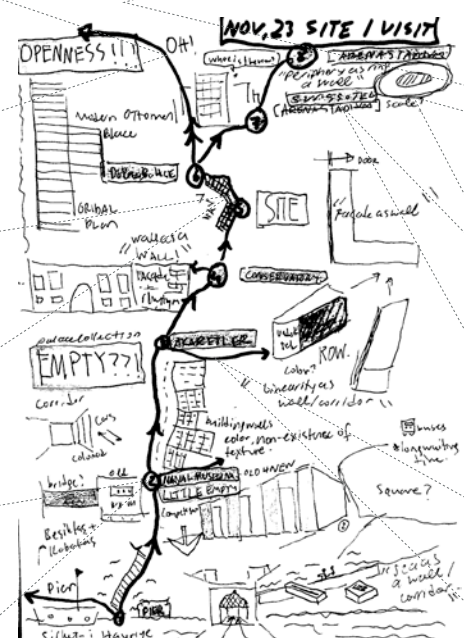
/ old-new relations



/ urban pattern

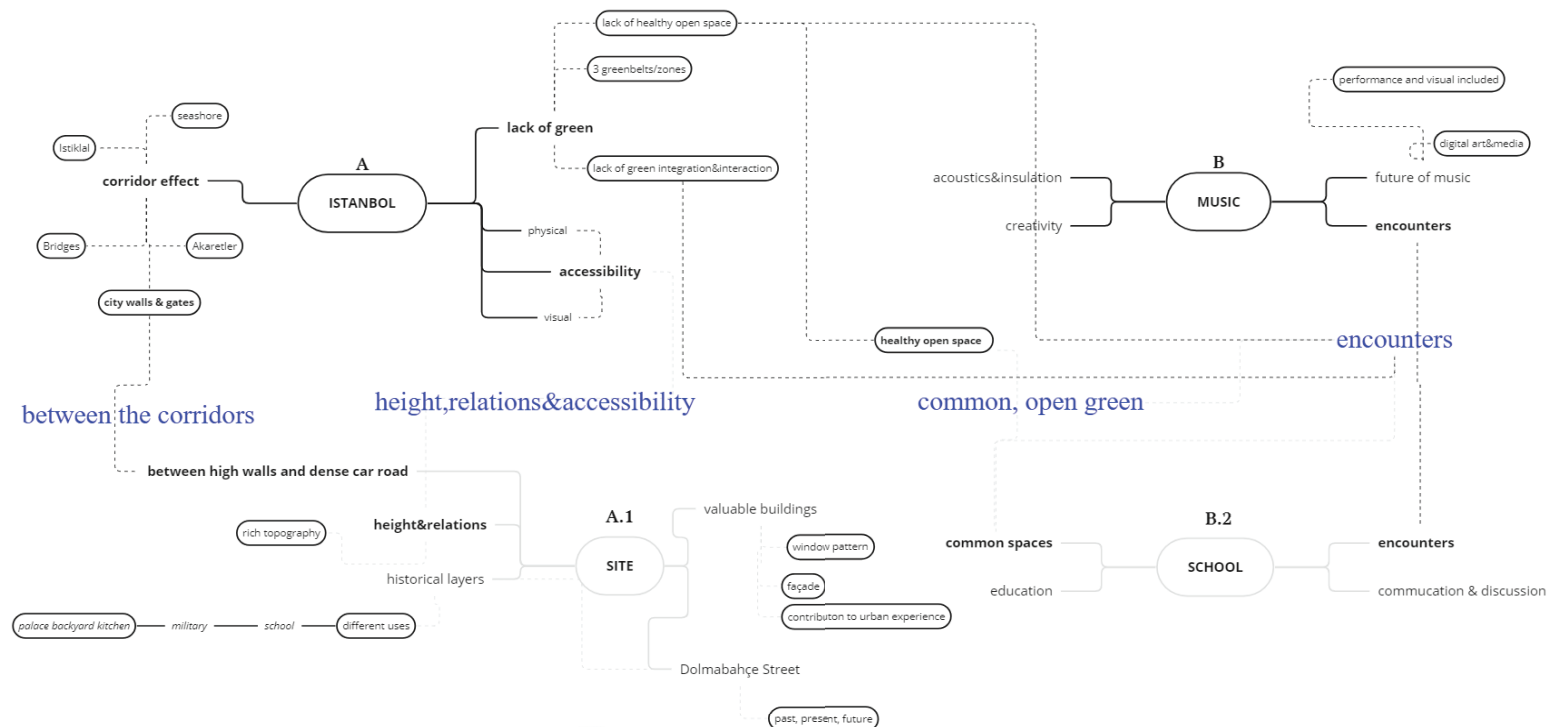


/ corridor & linear order



A black and white photograph showing a modern building with a grid-like facade. In the foreground, there is a large, dark, abstract sculpture on a pedestal. The building has multiple stories with large windows and a prominent vertical structure. The sky is clear and light-colored.

Corridor effect regenerates itself in Akaretler Row houses



Open and fresh start from the pier through the arcade of old Naval Museum

am i a freight or a value?

The building of the conservatory moved from its beautiful one to the one in Besiktas. The same scenario applied to the faculty of architecture. It moved to the military building which is not spatially sufficient.

degenerated. enclosed. dense

"Sorry for the construction"

"Birds" sound disappeared as people crowds accumulated.
They did not leave us yet, but they seem they are very close to this state of bird mind"

"Ferries to Beşiktaş are canceled due to extreme POPULATION conditions."

Şirket-i Hayriye
Functioned between 1854 and 1945.
Freight and transportation together.

dingdong
Open around! tramvai is on the road
between pedestrians and car traffic.
an organic urban transportation where
joy and function is together.

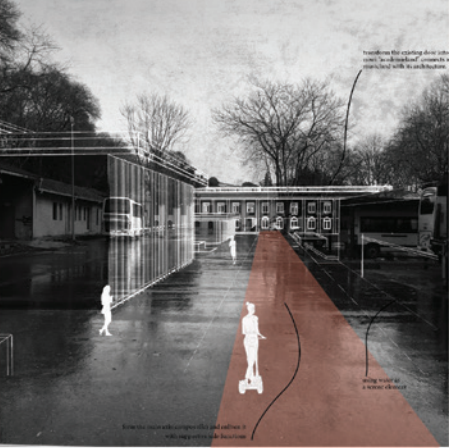
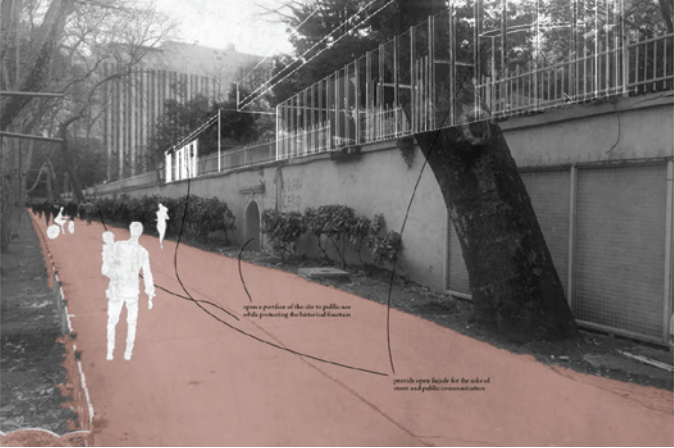
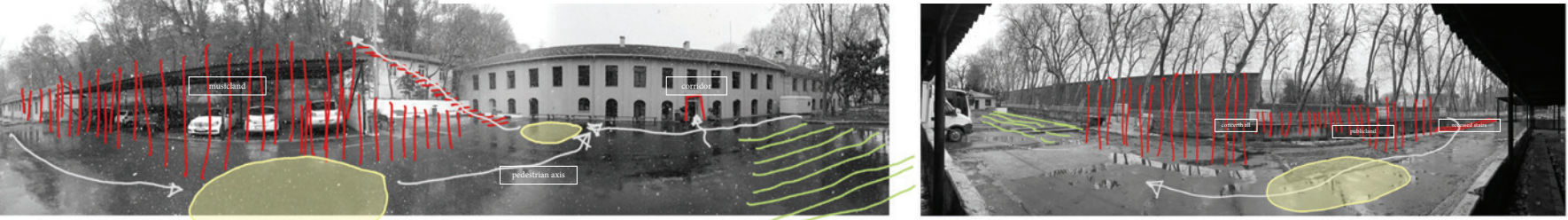
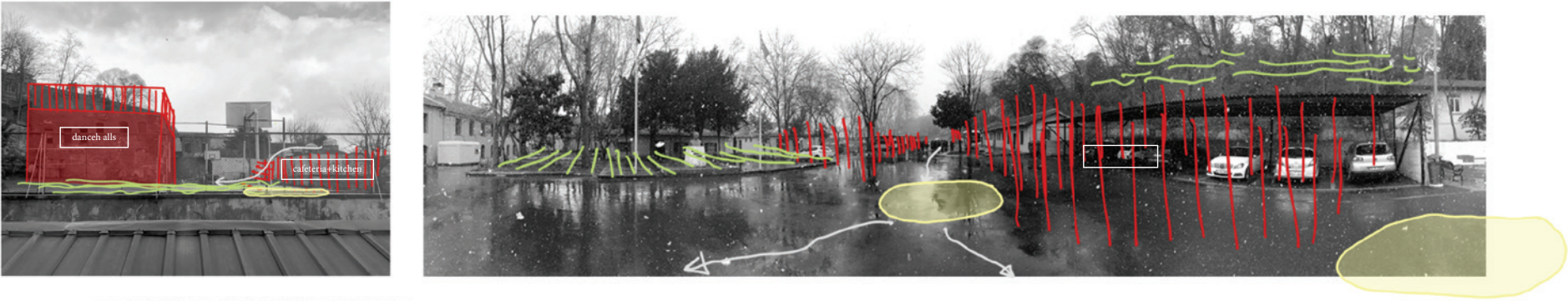
Akaretler
noun. Akar. Ottoman rent.

besiktASK!
kokorec midve swear and shout

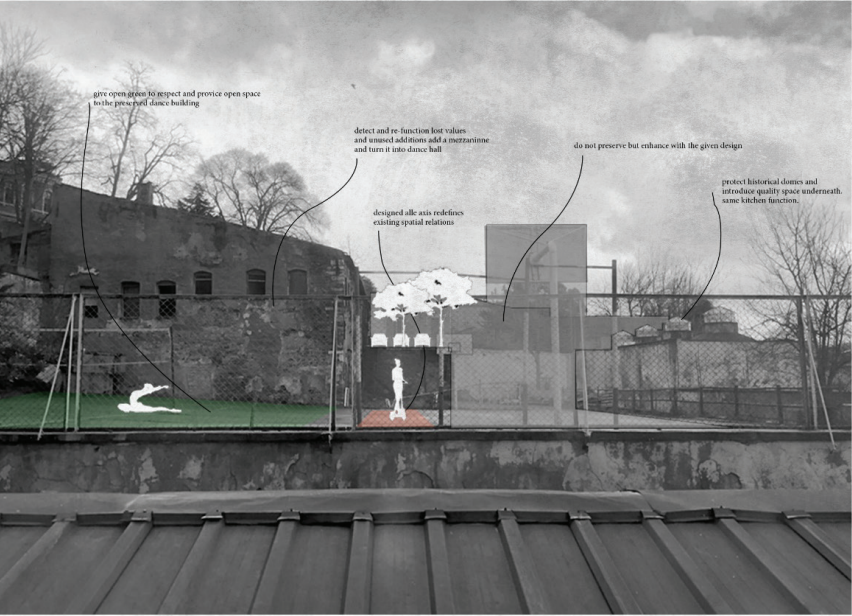
I was walking on the street
I was walking on the street
while there was a huge crowd
walking towards me.
Almost impossible to find
your way inside the bodies.
the wall - this time - is
created by bodies and shops.
Horizontal surface-road-
becomes a ground for this
colonicity.

fresh . open . scarce

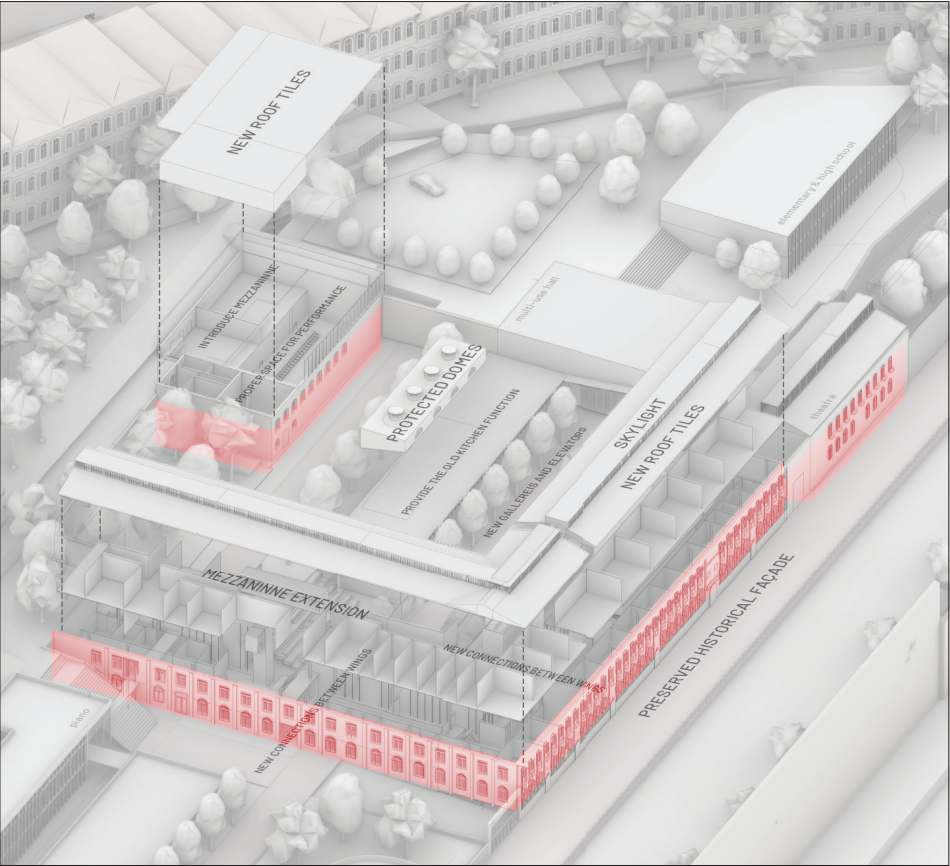
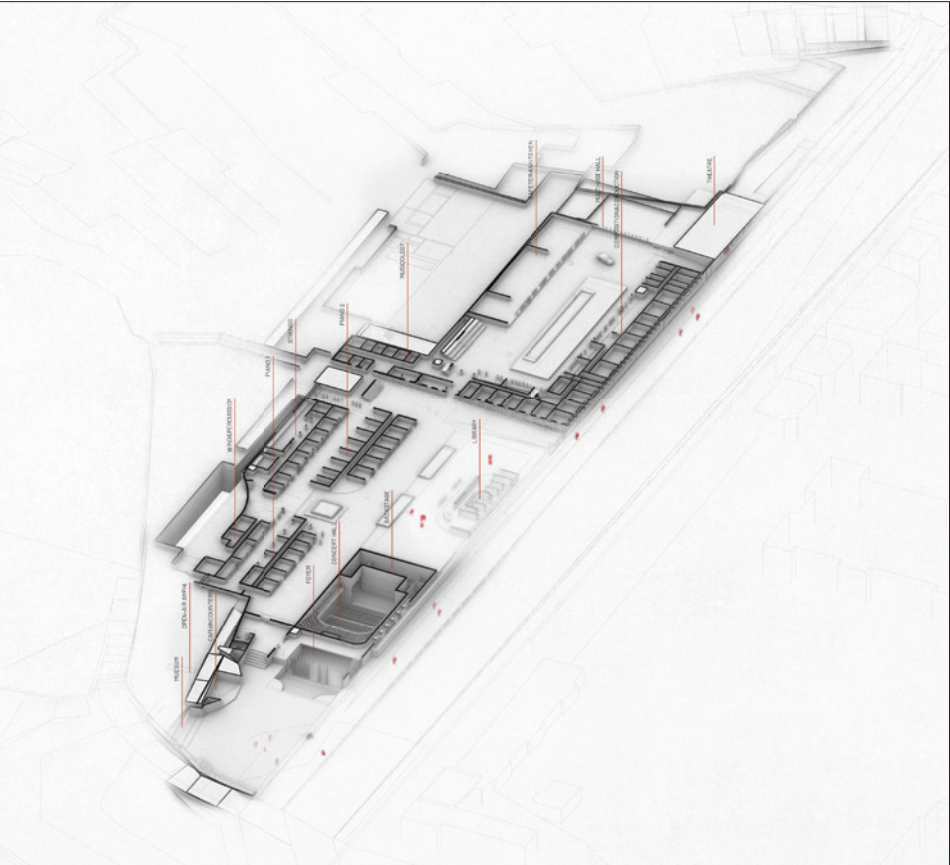
Design
regenerating the site



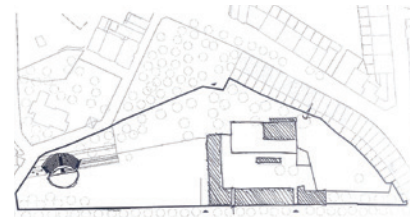
Replace the roof, achieve higher ceiling height



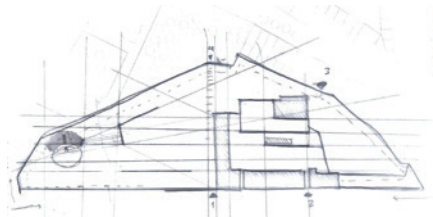
/ intervention acts
Transforming historical buildings into a bright and spacious 21st century facility.



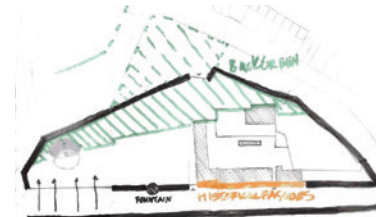
Initial masterplan decisions



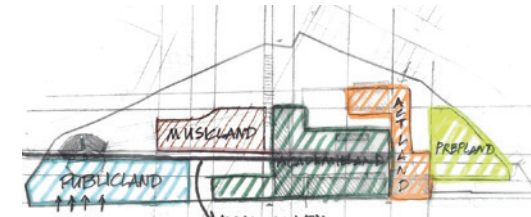
1 Initial situation



2 Studying contextual references and regulating lines



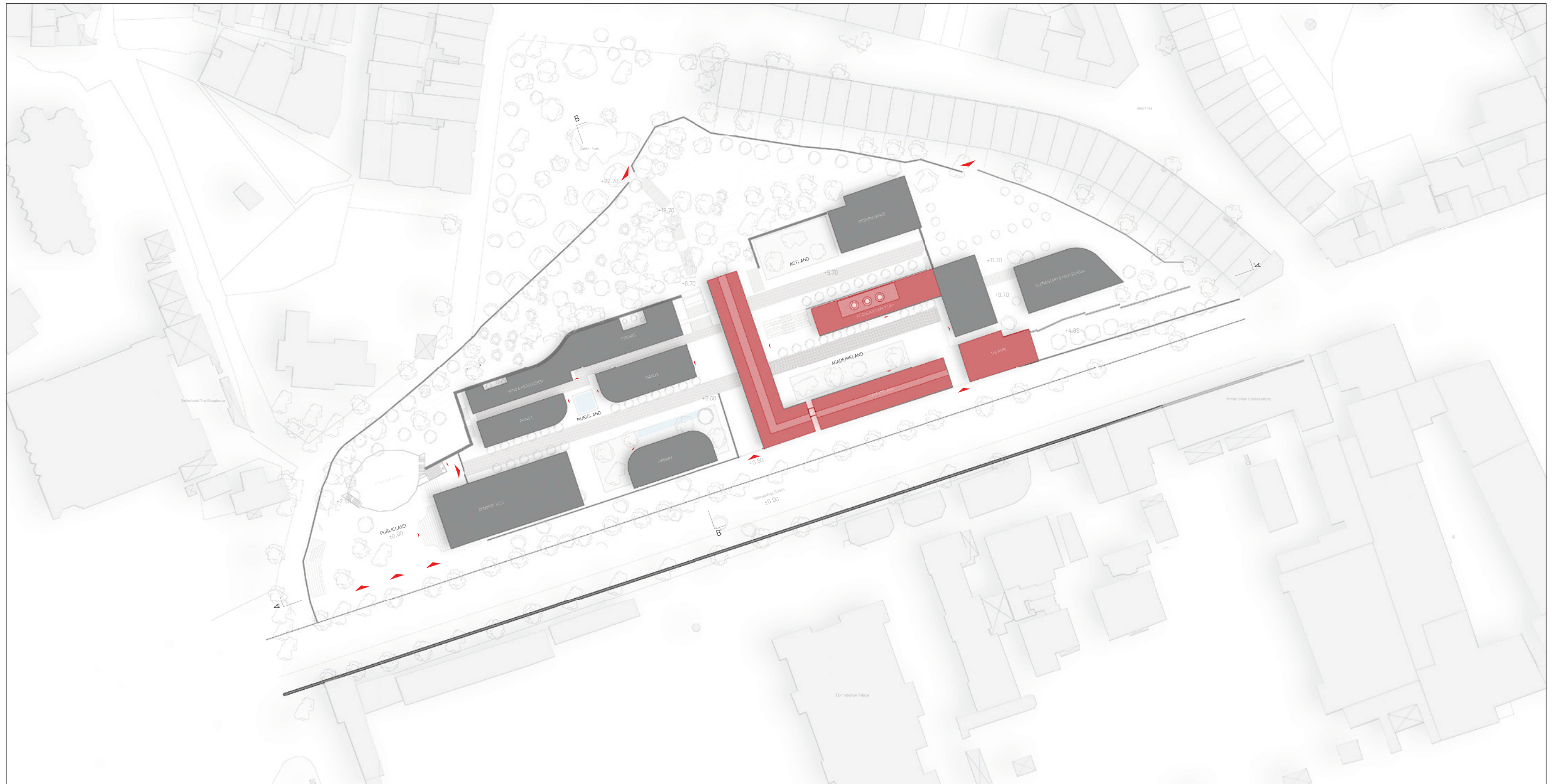
3 Ensuring that the area was publicized partially and the image of the historical façades, historical walls, fountain and backgreen were preserved with moderate expansions on the sides.



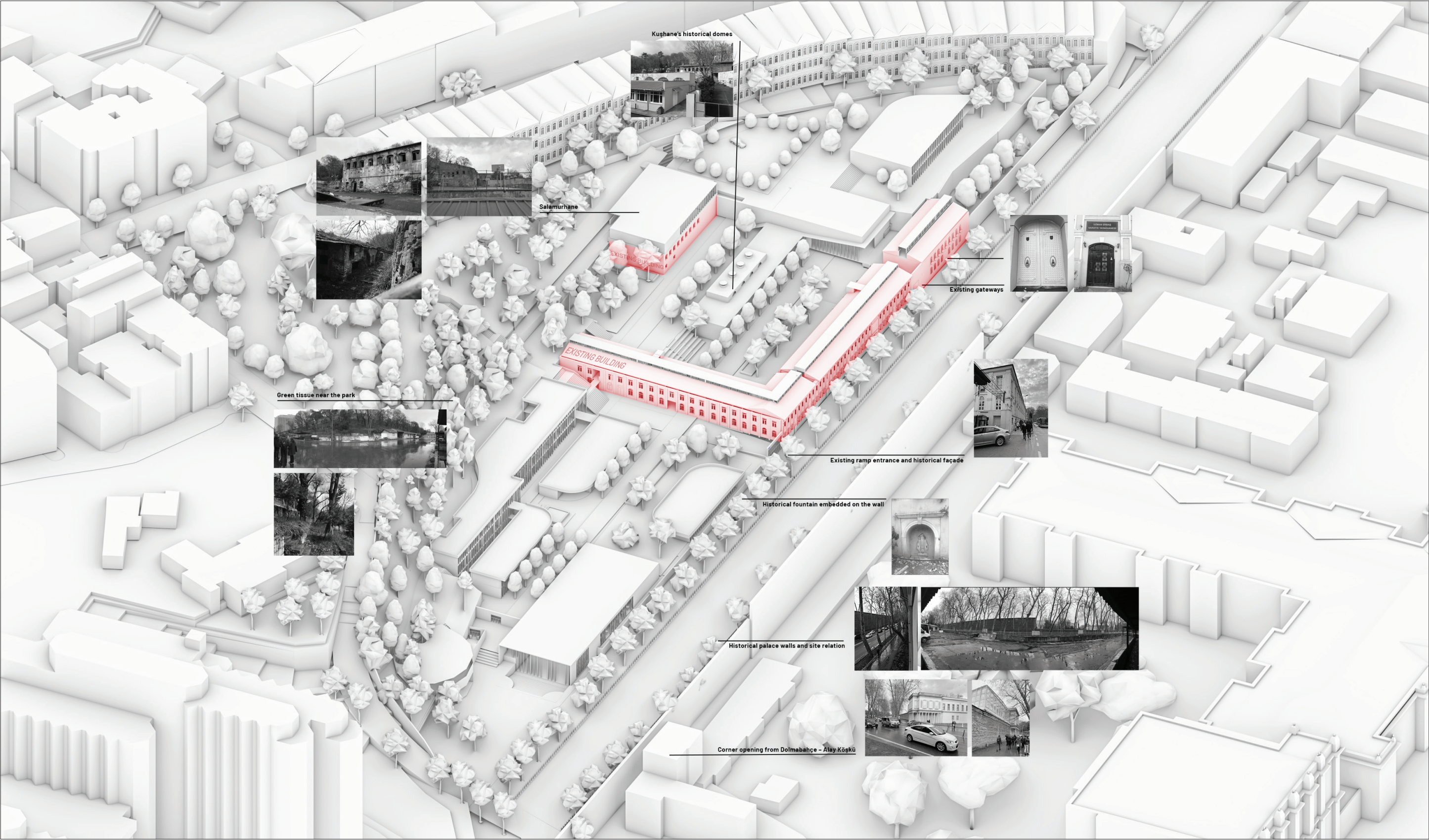
4 Interpreted and intended to be designed as a campus, the site is divided into functional and social zones. Buildings in the zones are regulated by the designed alley axis for better integration and management.



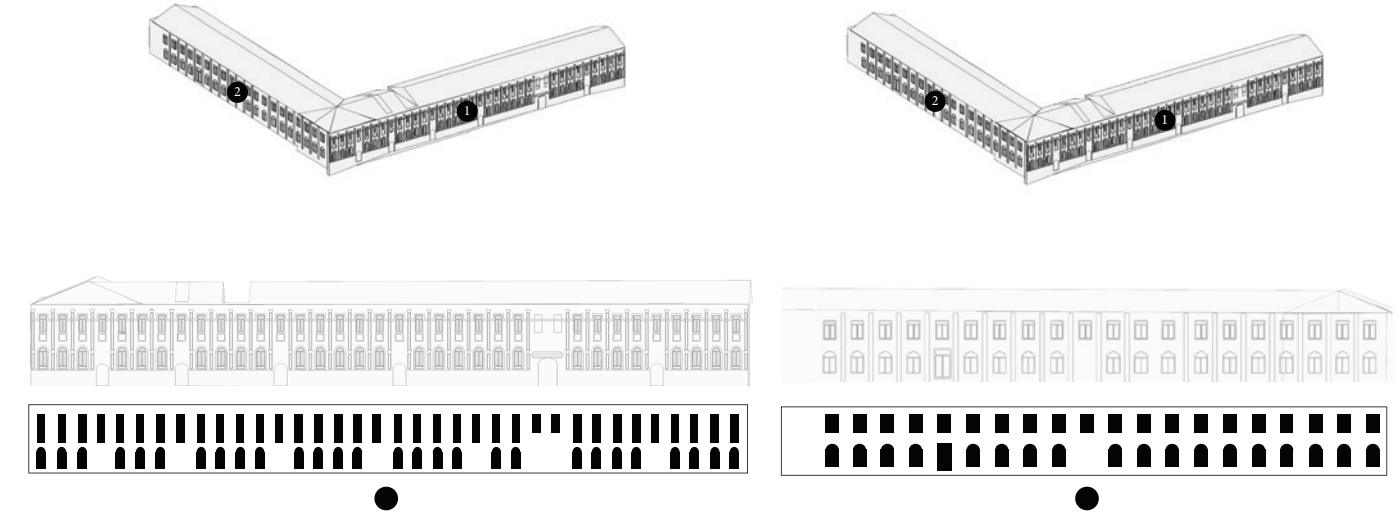
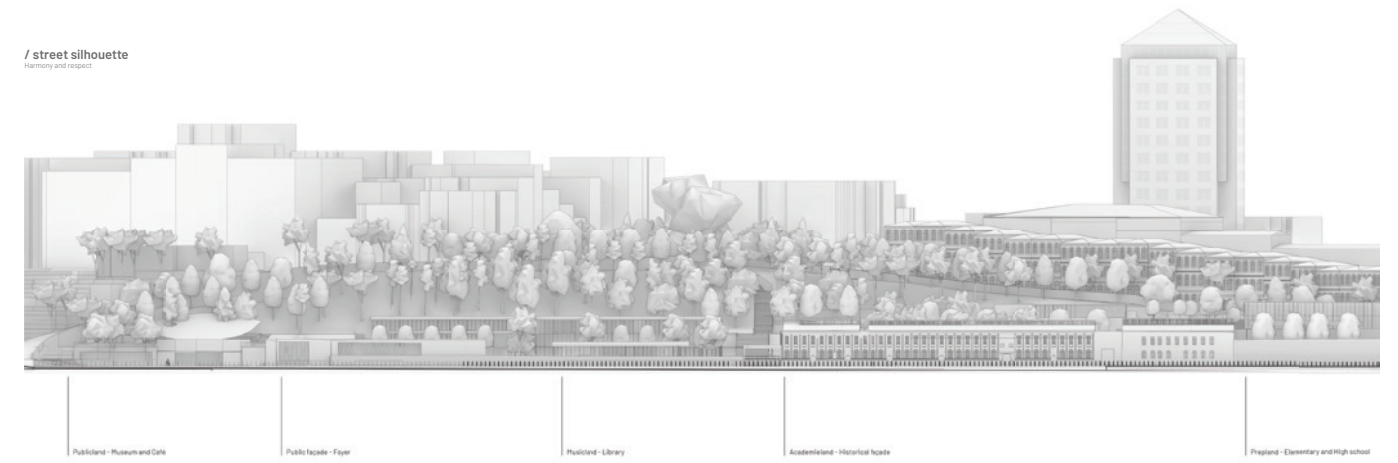
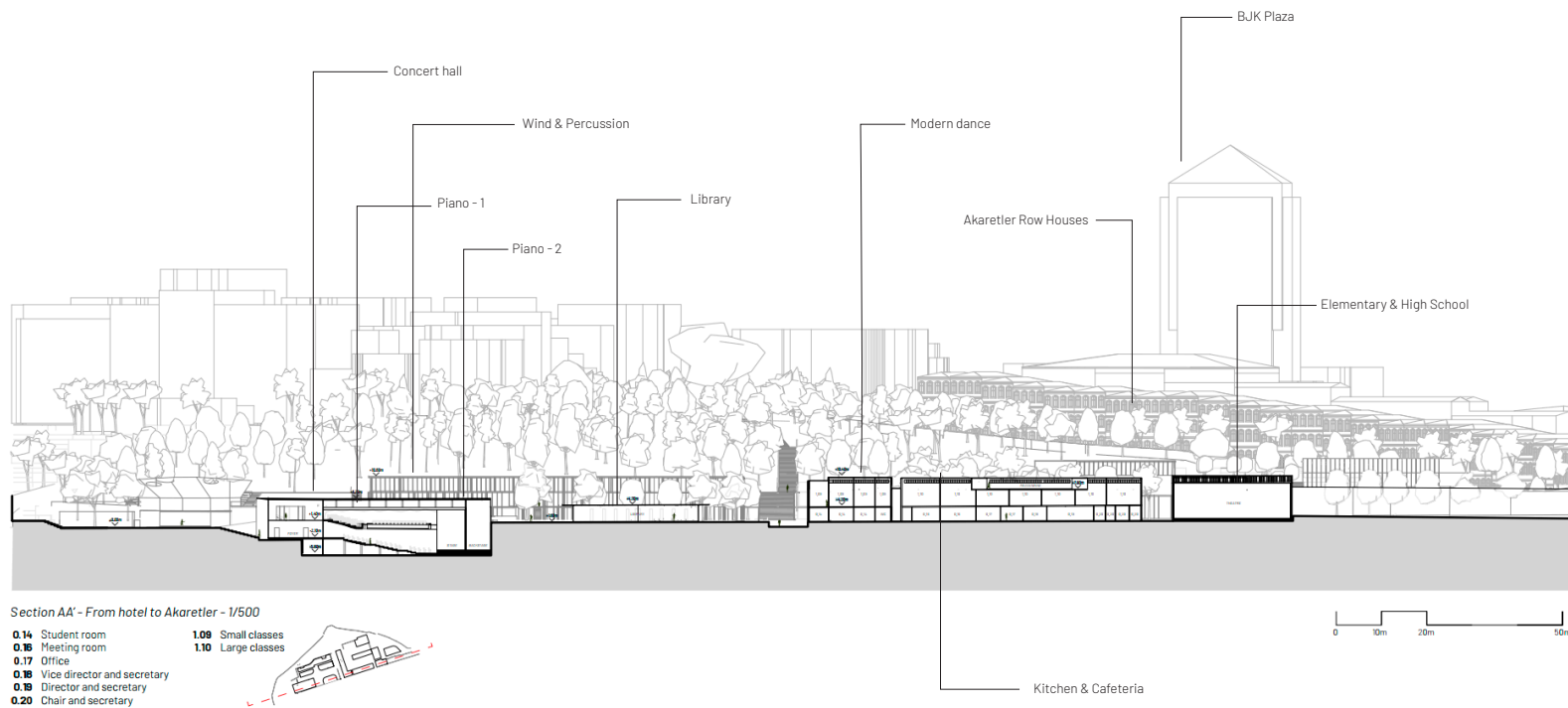
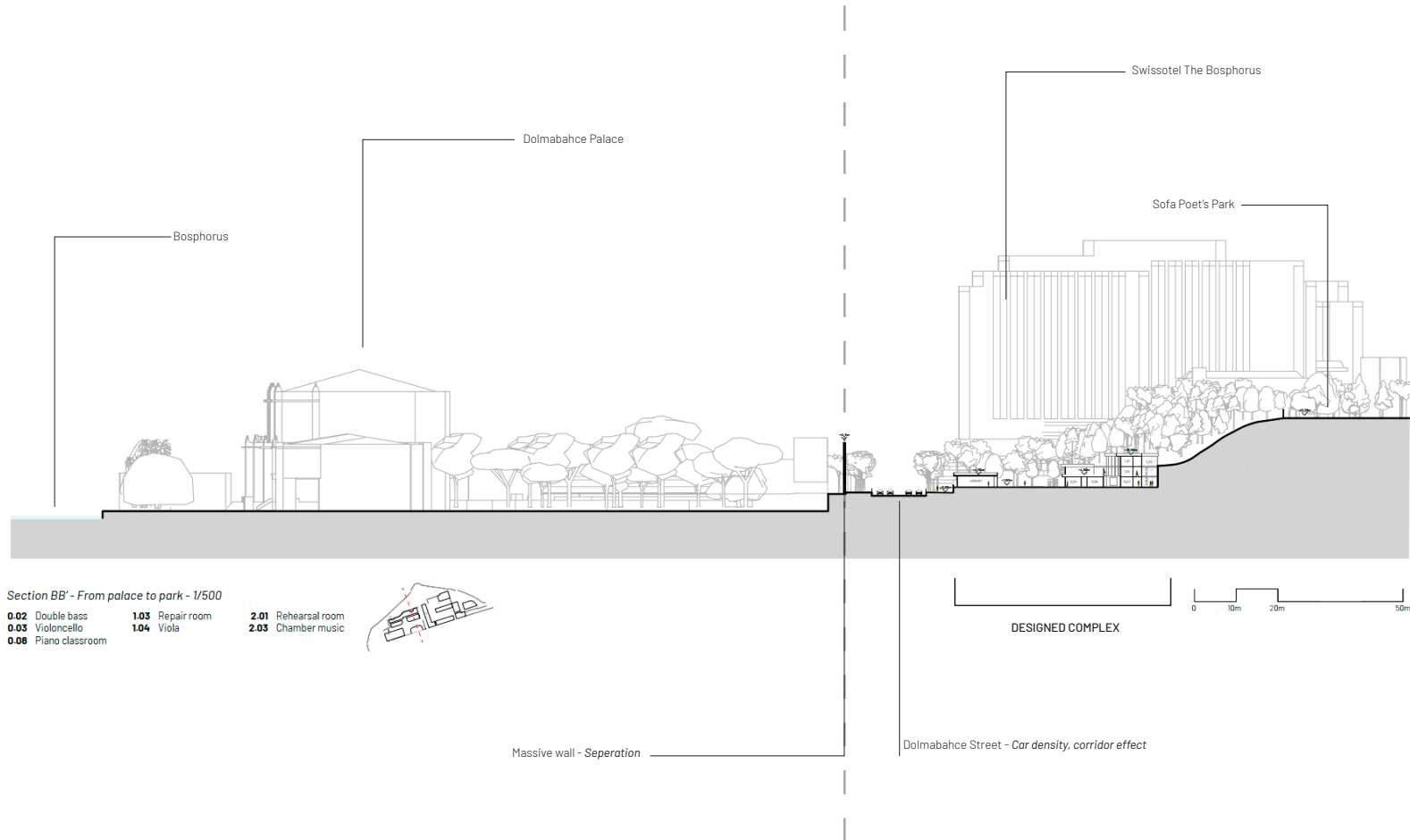
5 Giving one public and one academia façade to the important Dolmabahçe Street and treating the corner of the site as a feeding point from the street after a linear journey between the walls and façades.



“Design the new in the old”
regenerating the site



/ historical fragments on site
Understanding and treating historical values individually while designing the new in the old.



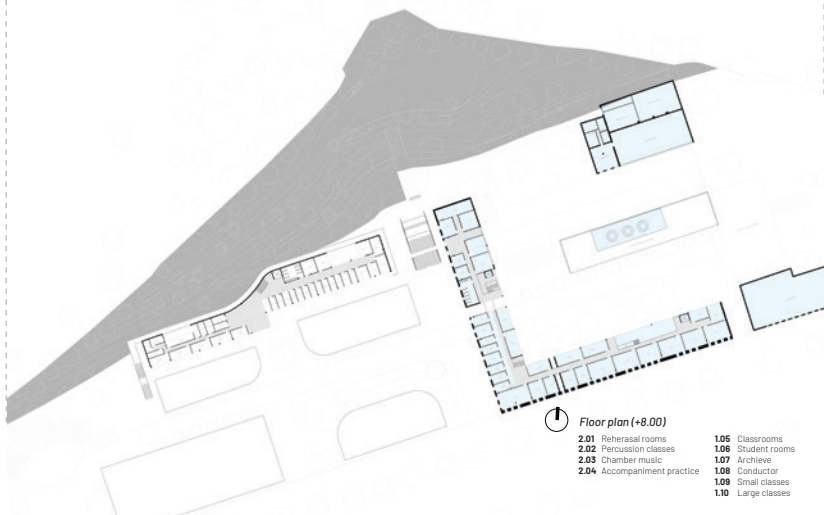
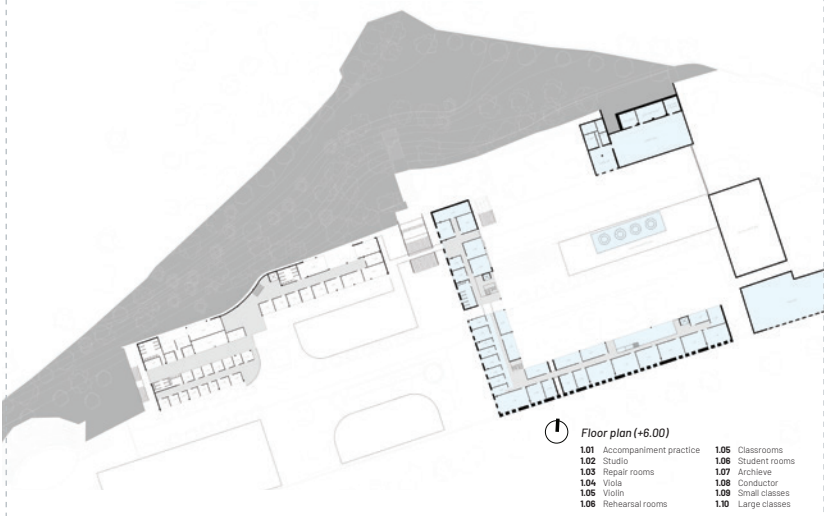
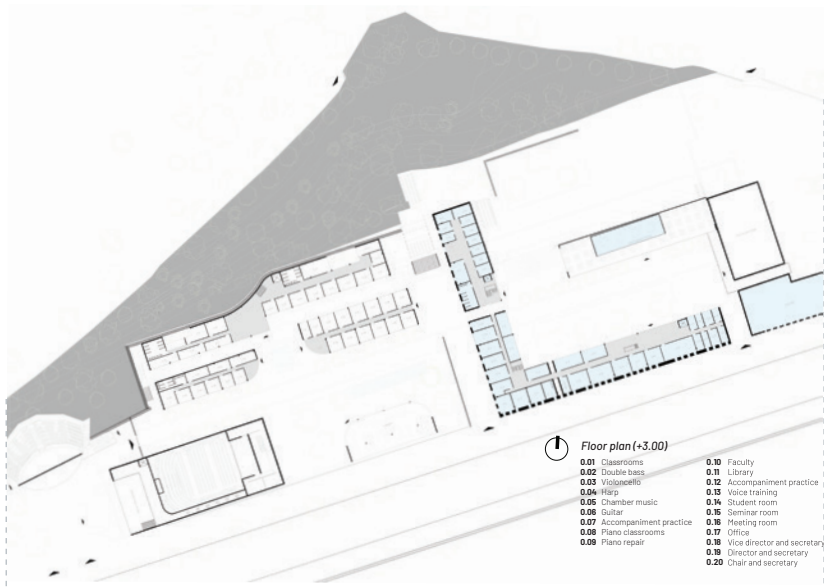
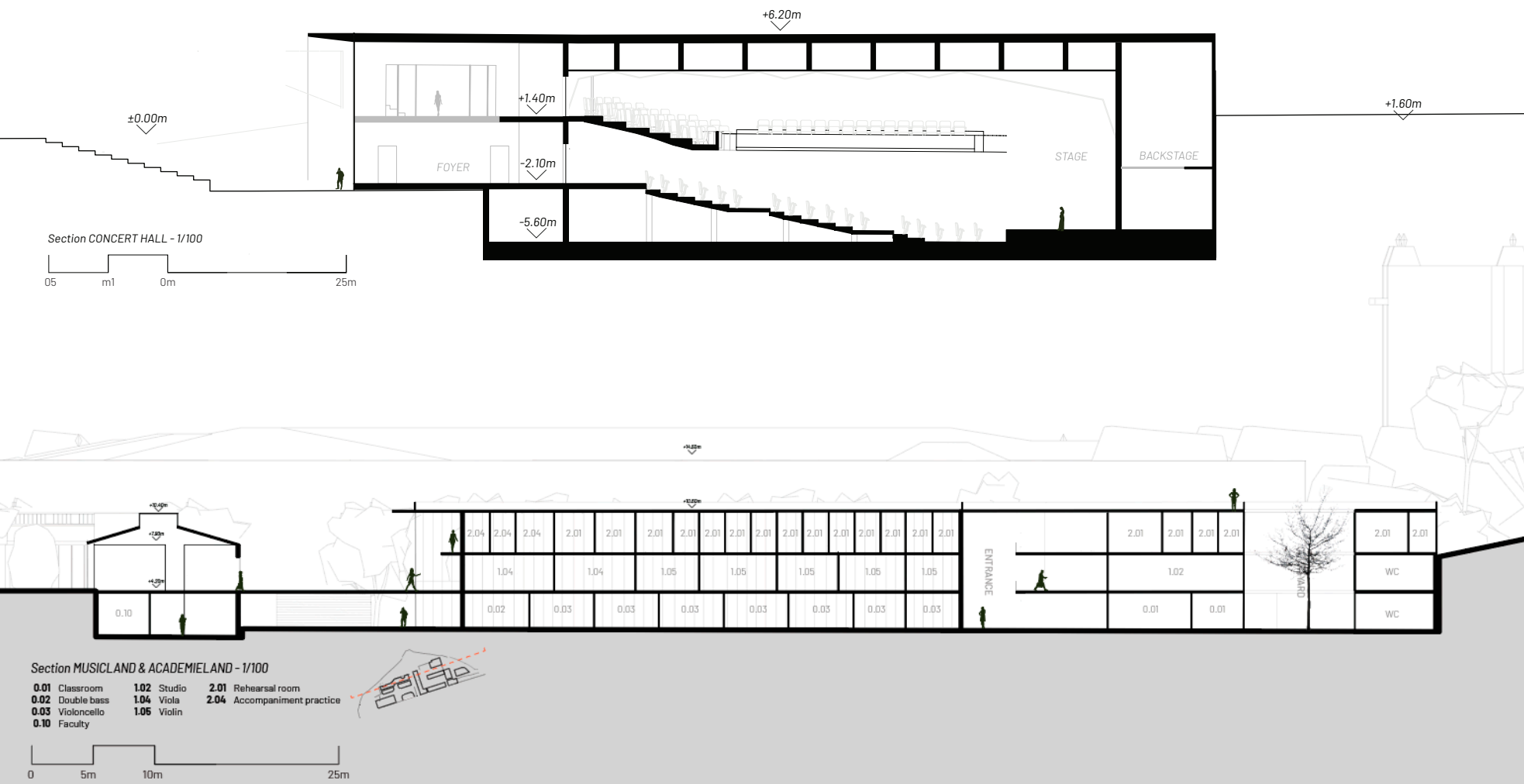
/ studying façades
Rhythm and character



Concert hall & Publicland

Concert hall opens itself to publicland and creates the publicland together with open-air amphitheatre, café/hcounters and museum. Its transparent façade is giving character to the public square and invites the public flow by exposing the life at foyer before the concert.

Publicland hosts public functions such as the library and museum. It -again, takes people in from the recessed steps. Also it directs them with open flow to the encounter node.



P.05 Jam house

PROGRAM/TYPE

Weekend house construction project

LOCATION

Prinkipo, ISTANBUL

CRITIC

Koray Pekerçli (Carnegie Mellon, University of Reading)
Bilge Musaağaoğlu
Ayşem Berrin Çakmaklı (Texas Austin)

TEAM*

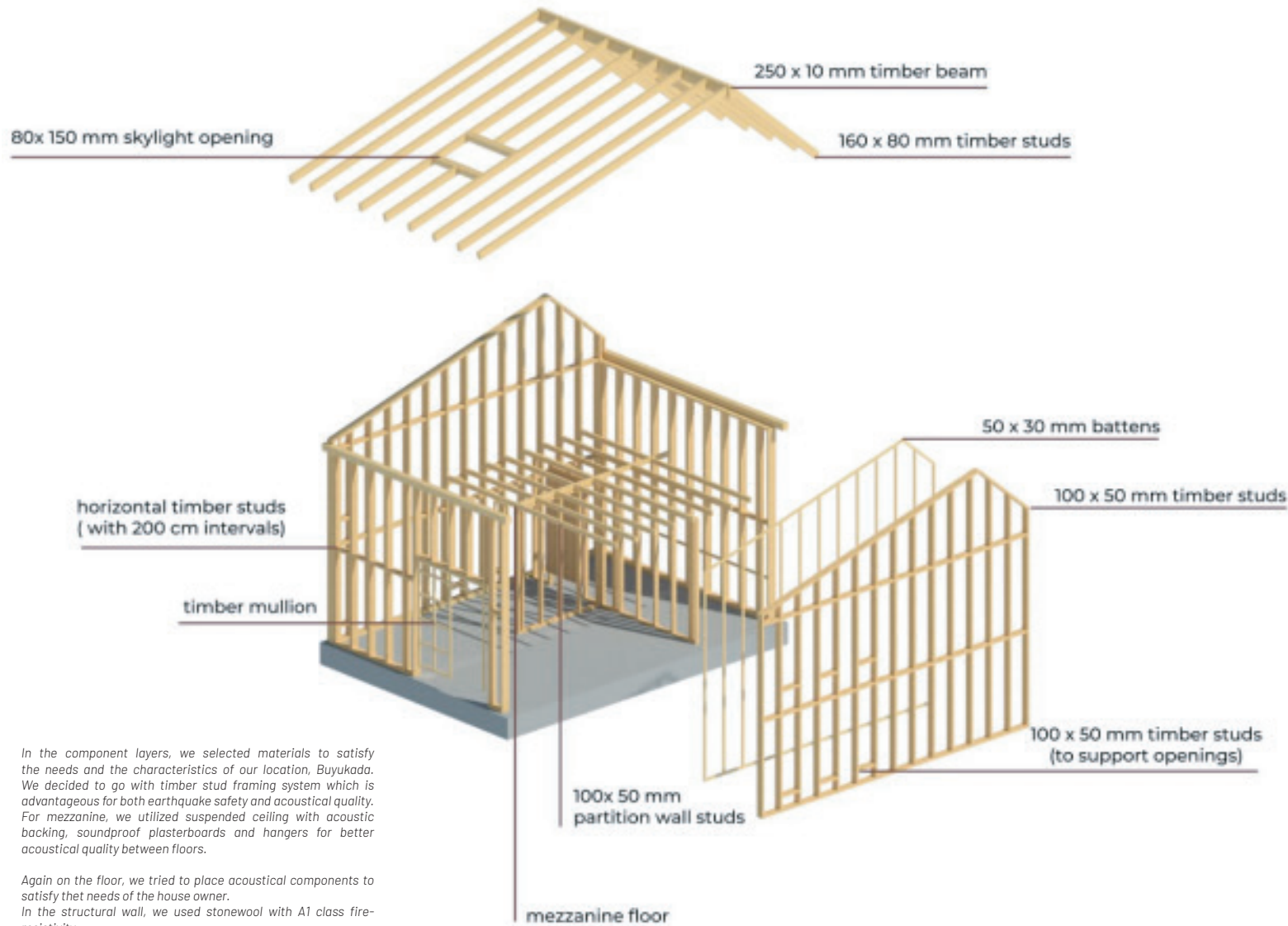
Selen İlhan, Mehmet Kaplan

DATE

2021-2022 | Fall
Building Detail Modelling

* I was responsible for REVIT 3D modelling, detail solutions of foundation, wall, mezzanine, floor and opening systems, floor and site plan drawings, mindmapping, poster layout and presentation design.
In this complement, I only included my own drawings and productions.

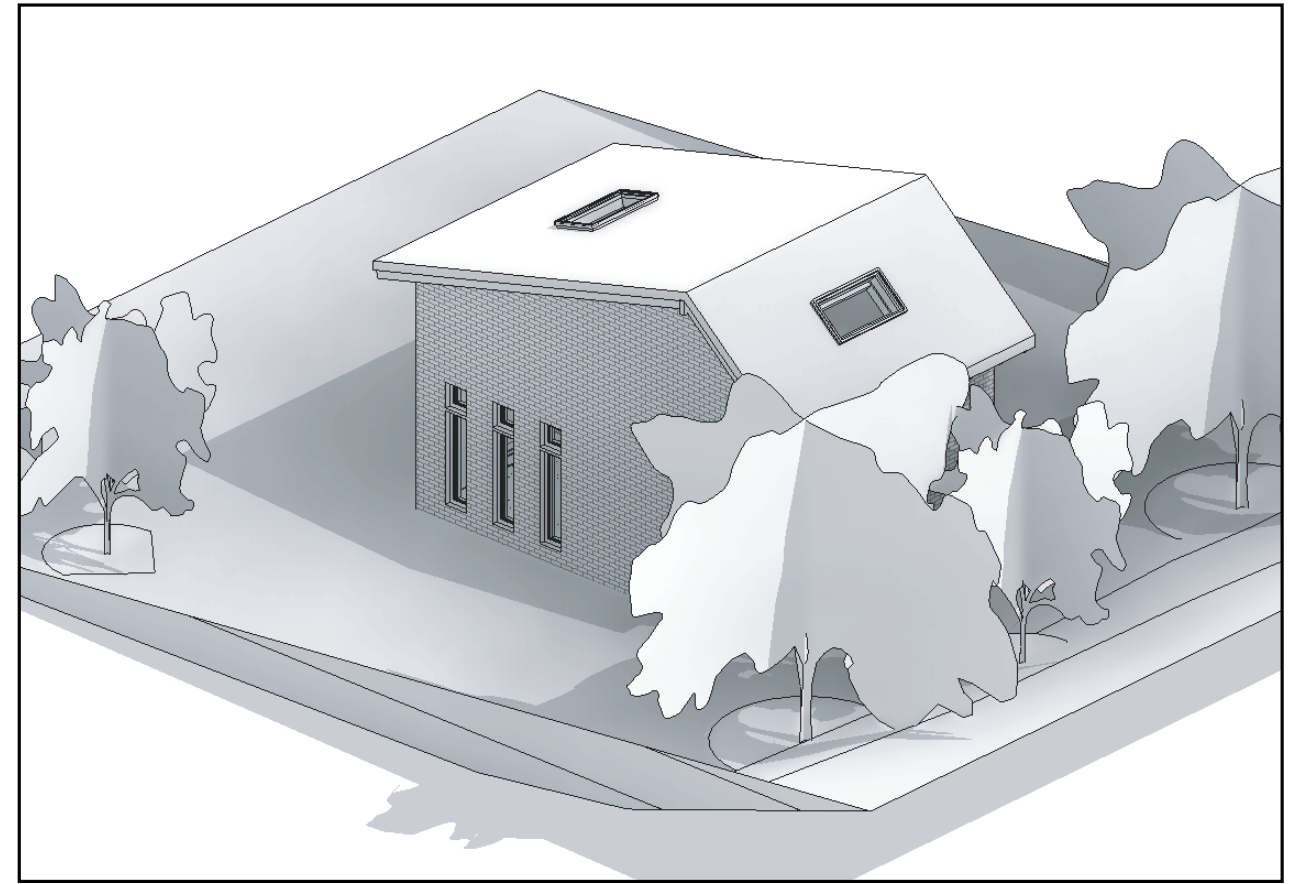
Structural System



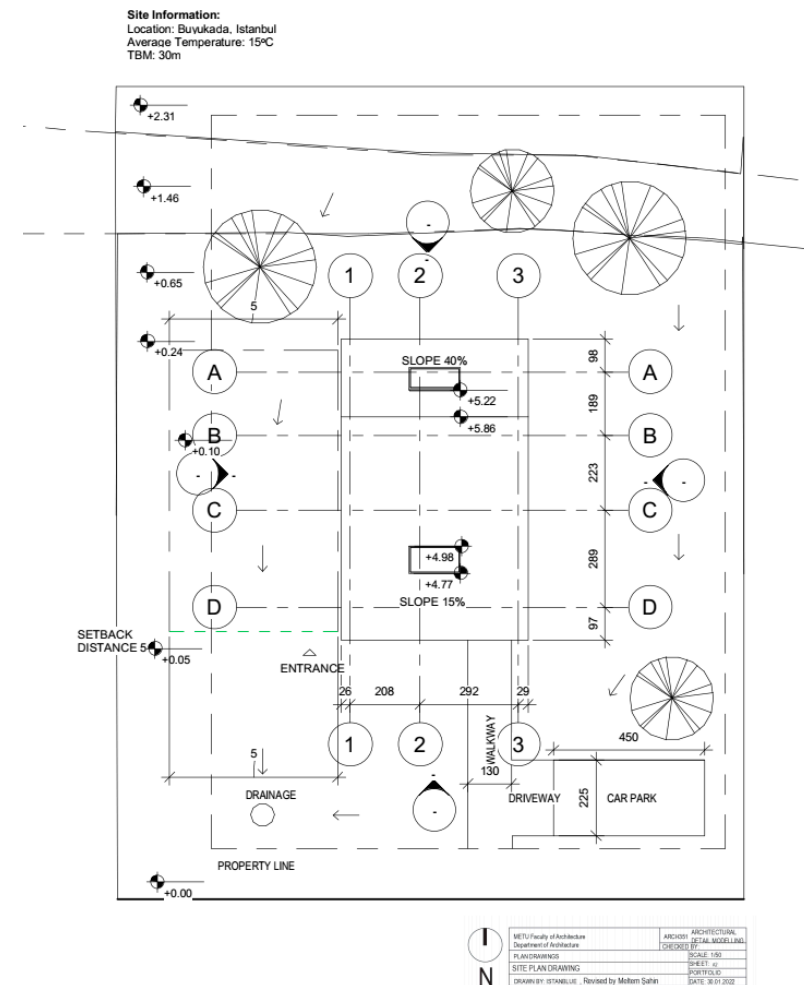
In the component layers, we selected materials to satisfy the needs and the characteristics of our location, Büyükada. We decided to go with timber stud framing system which is advantageous for both earthquake safety and acoustical quality. For mezzanine, we utilized suspended ceiling with acoustic backing, soundproof plasterboards and hangers for better acoustical quality between floors.

Again on the floor, we tried to place acoustical components to satisfy the needs of the house owner. In the structural wall, we used stonewool with A1 class fire-resistivity

Jam House Exterior View



Site plan (1/100 detail)

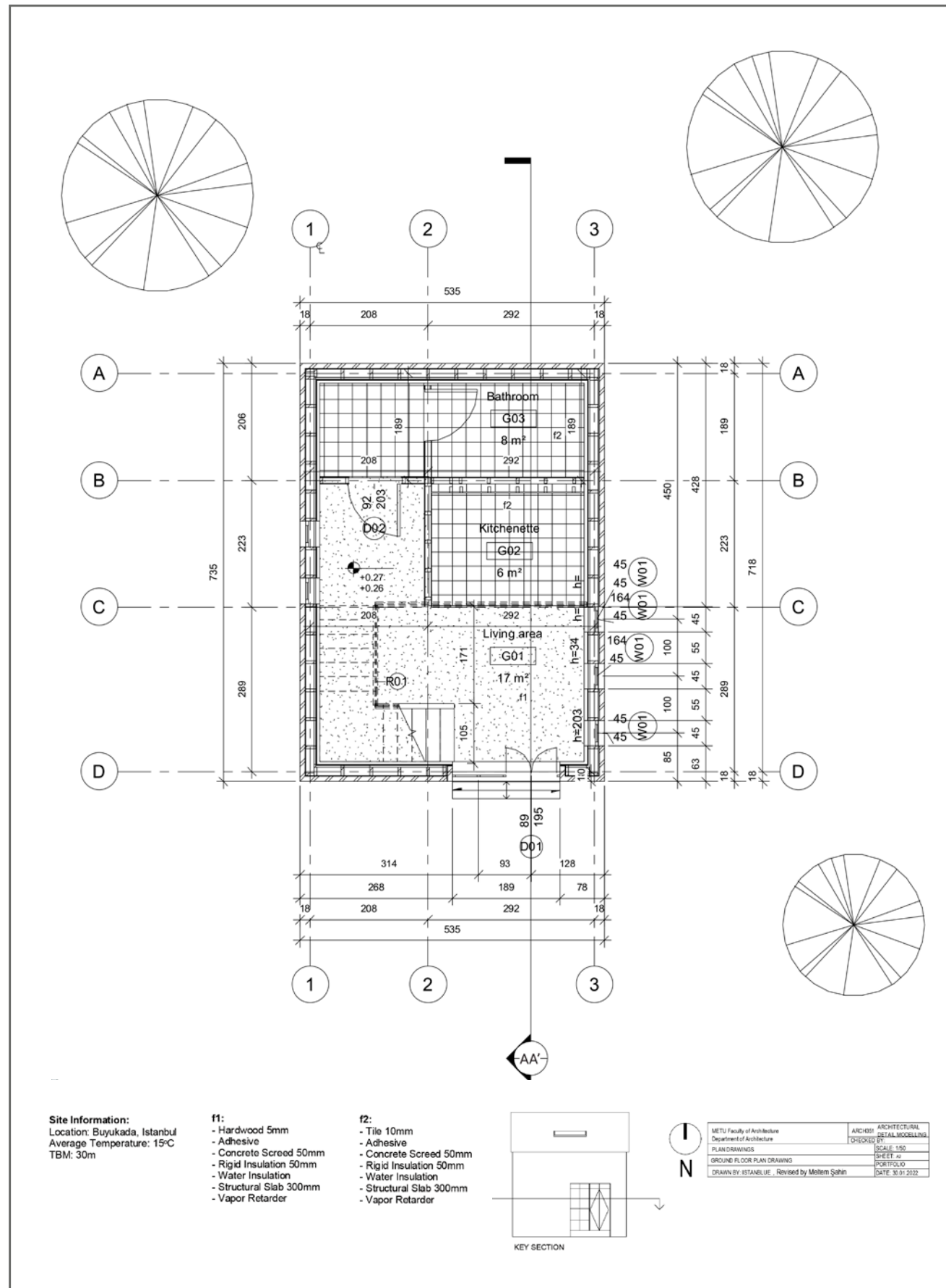


As a team of three, we designed a weekend house, considering client's request along with natural light, acoustical and thermal properties.

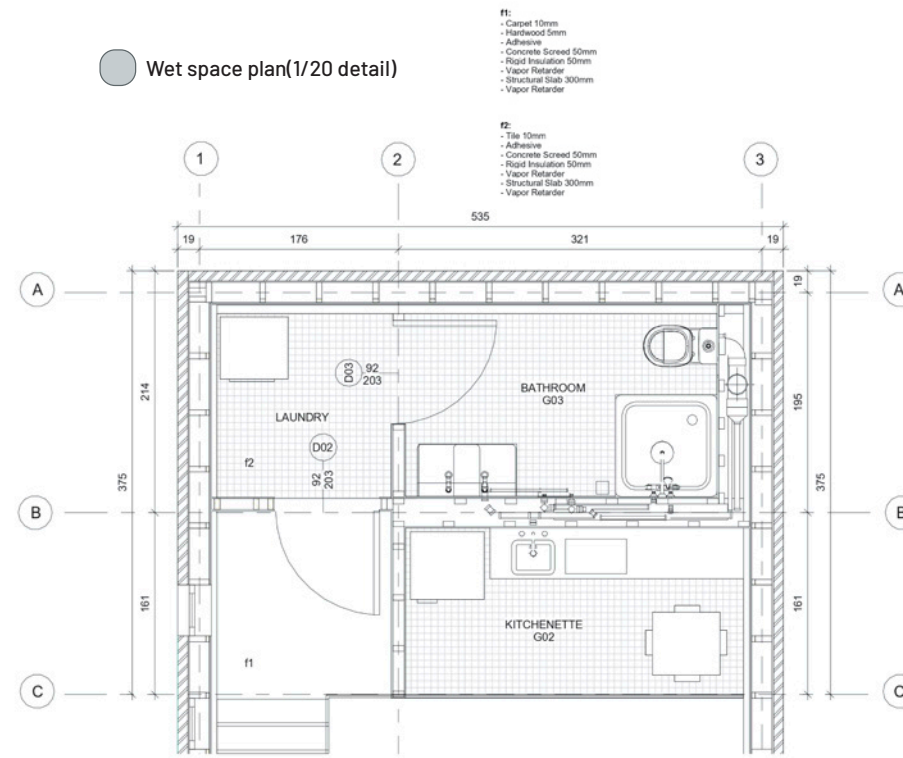
Besides, the spatial quality of the rather-small house was enriched by the mezzanine floor that is lightened through skylights.

In the interior scheme, we introduced one kitchenette, one bathroom and a living/jamming area on the ground floor and a sleeping area on the mezzanine floor.

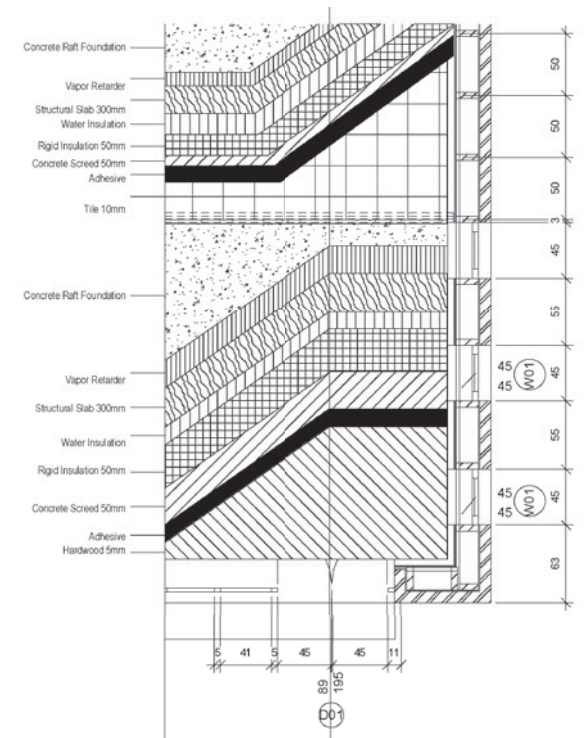
Ground floor plan(1/50 detail)



Wet space plan(1/20 detail)

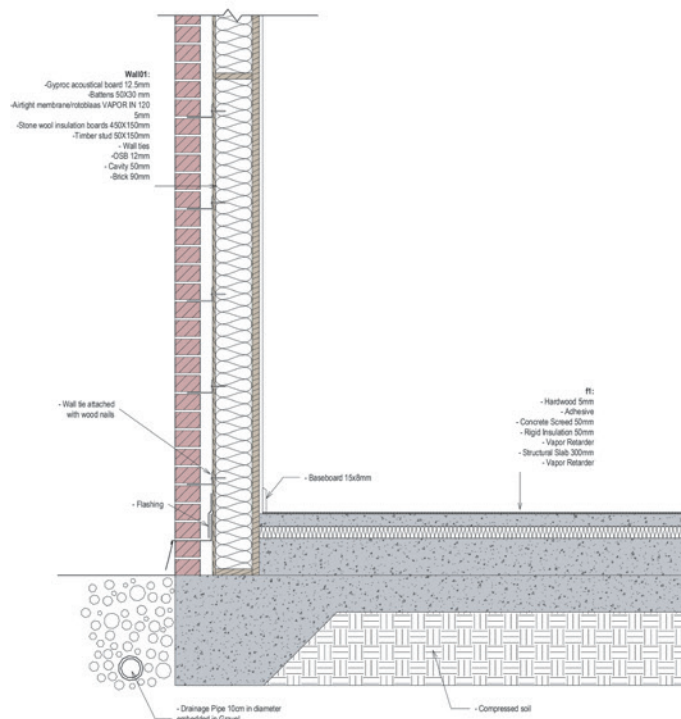


System plan (1/20 detail)

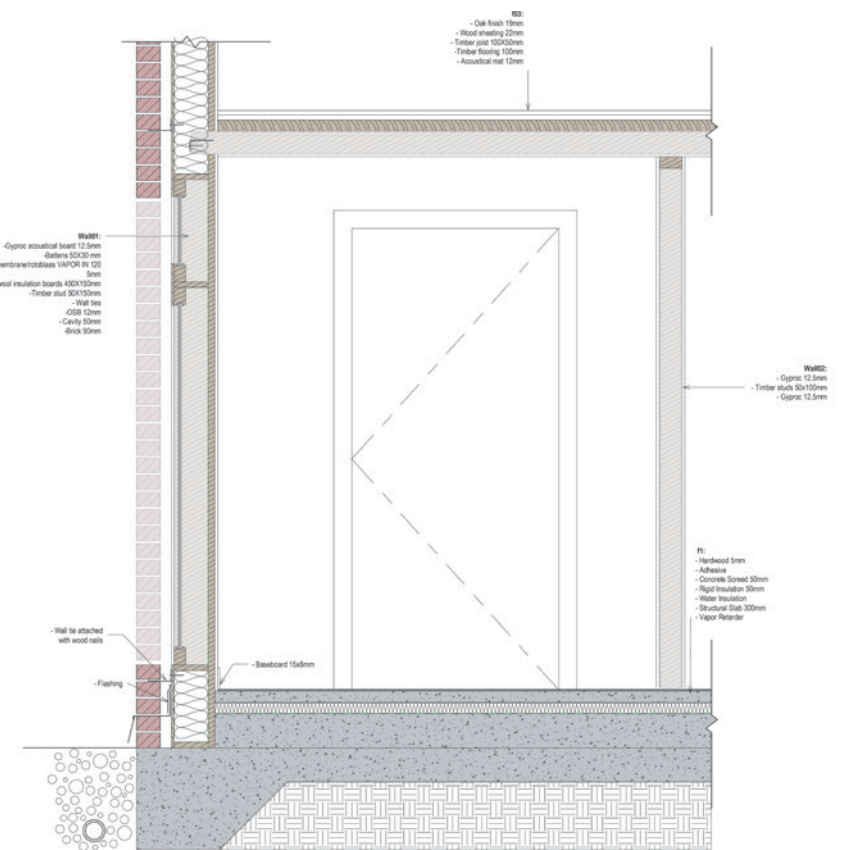


Foundation-Wall-Floor Connection (1/10)

In the component layers, we selected materials to satisfy the needs and the characteristics of the site, Prinkipo. We decided to go with timber stud framing system which is advantageous for both earthquake safety and acoustical quality. For mezzanine, we utilized suspended ceiling with acoustic backing, soundproof plasterboards and hangers for better acoustical quality between floors. Again on the floor, we tried to place acoustical components to satisfy the needs of the house owner. In the structural wall, we used stonewool with A1 class fire-resistivity.



Wall-Mezzanine-Floor Connection
Wall-Opening Connection (1/10)



PROGRAM/TYPE

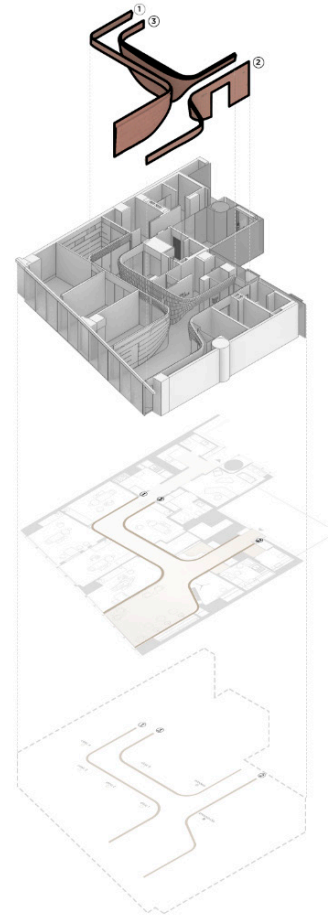
Office Internship

LOCATION

slasharchitects, Beyoglu, Istanbul

DATE

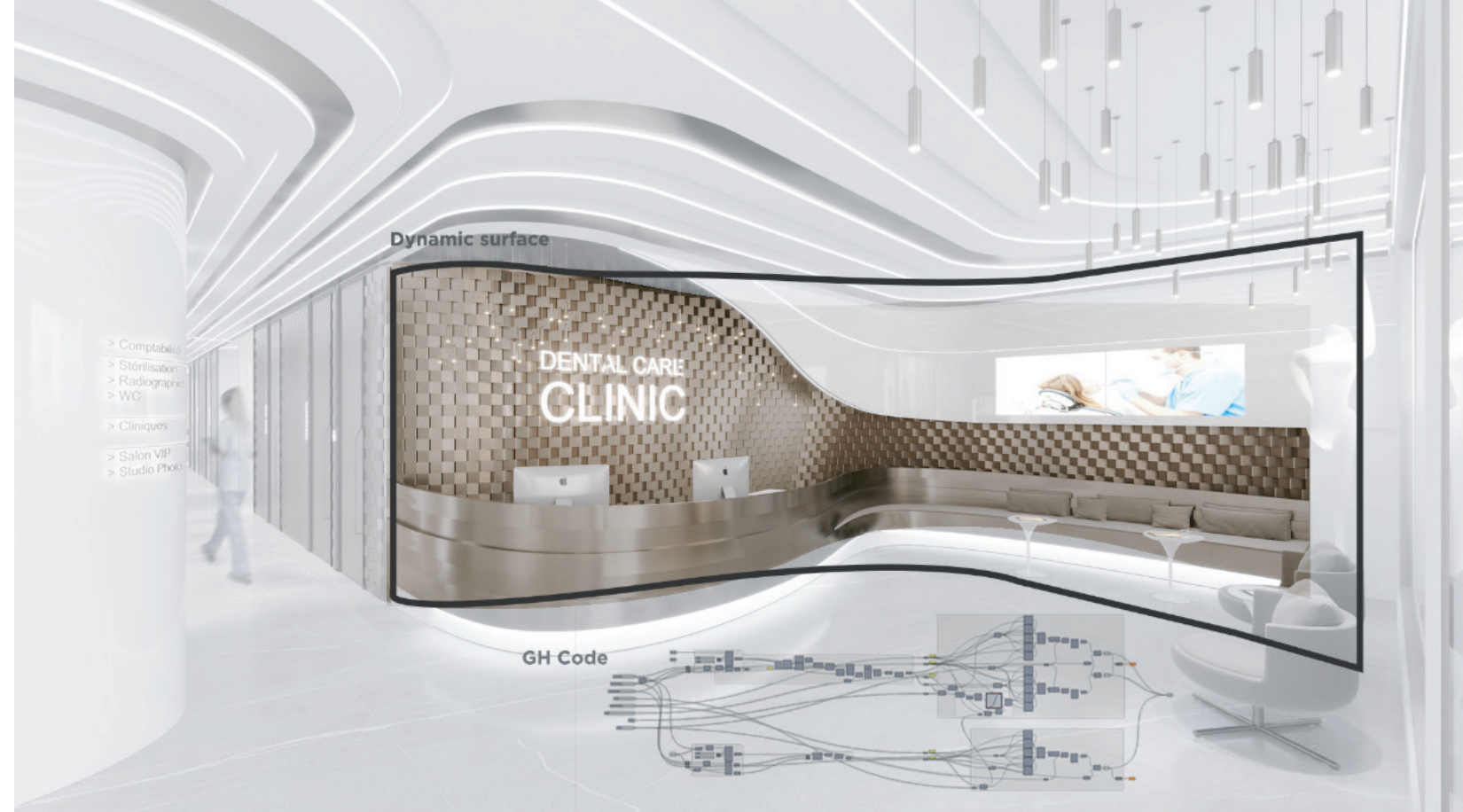
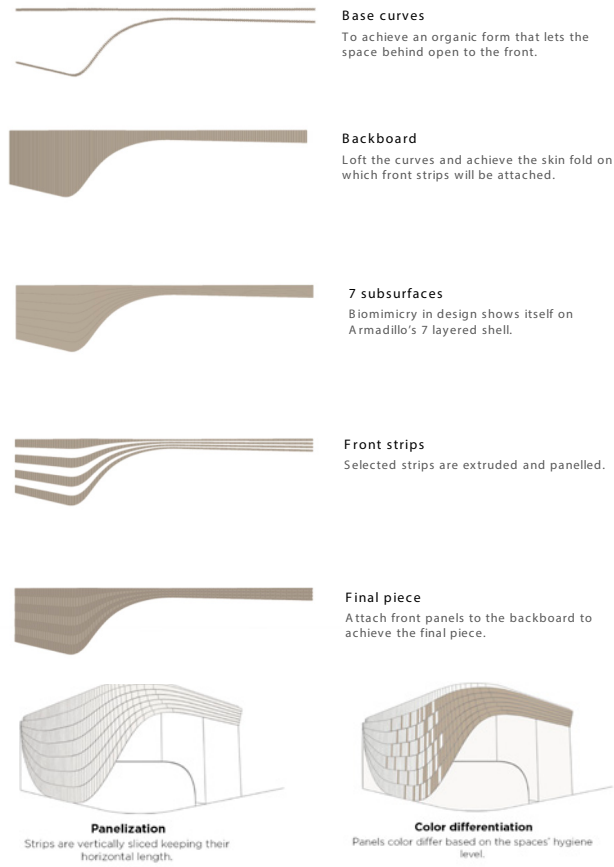
February-March 2021-2022 | Winter break



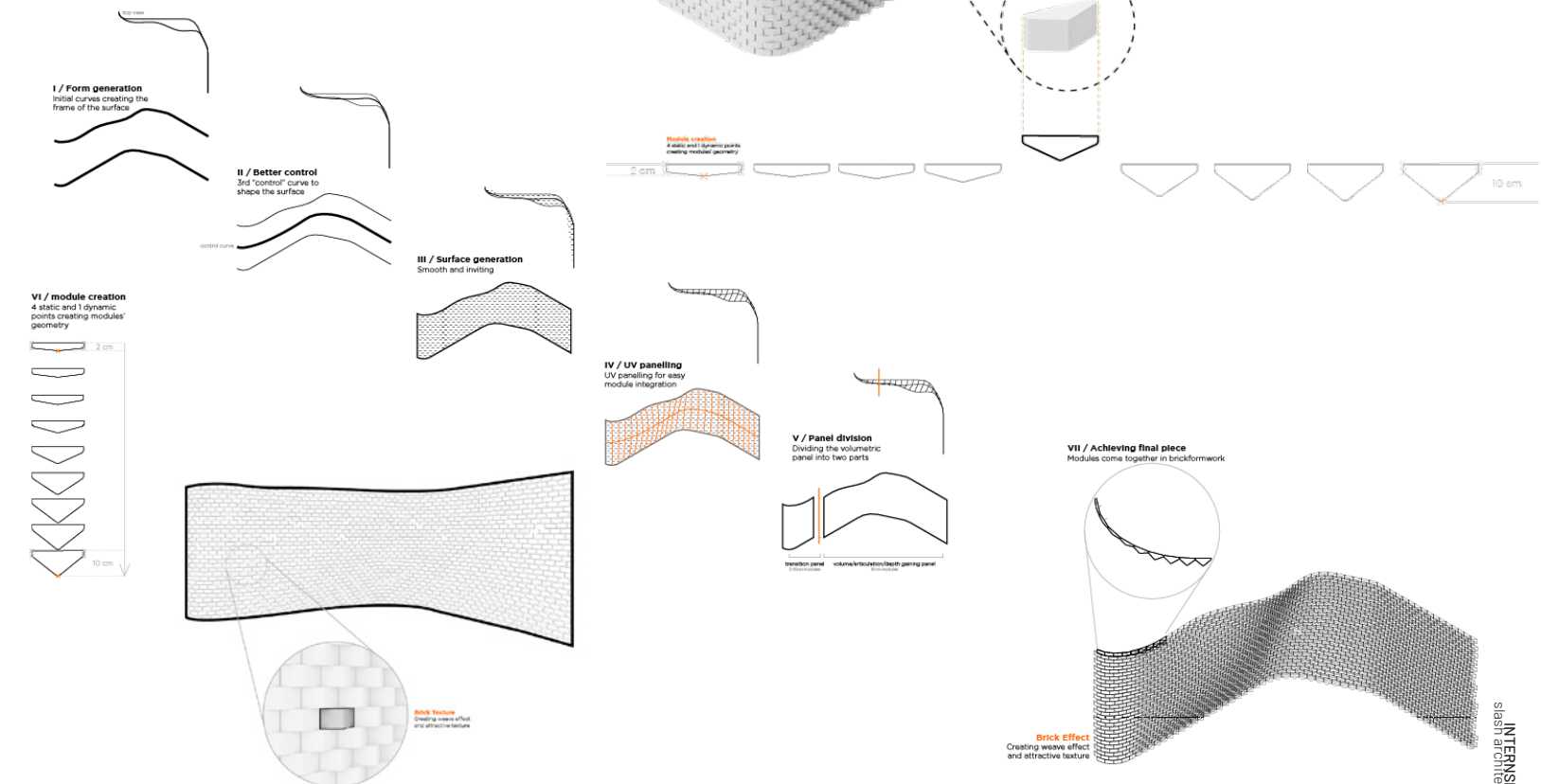
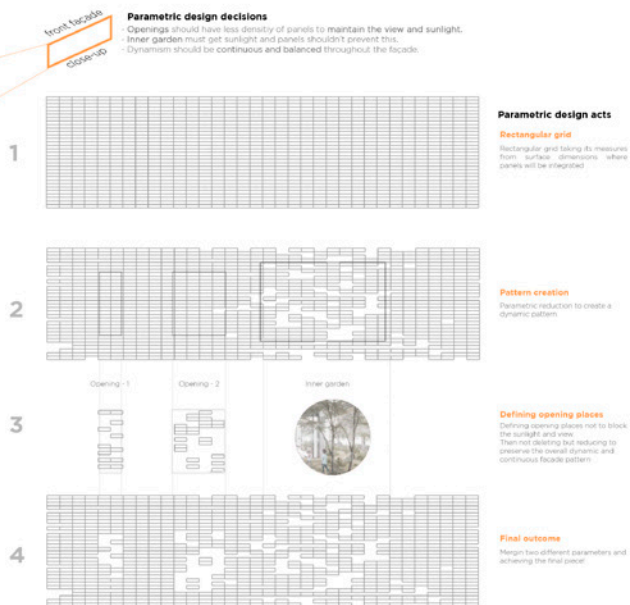
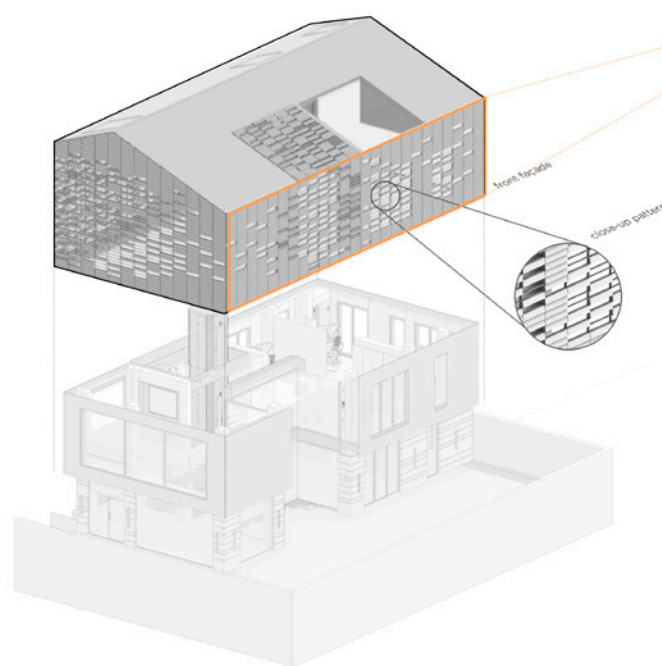
SLASH ARCH/TECTS

I did my first office internship in Slash Architects, Beyoğlu, Istanbul in the winter break of the first half of my third year education. I worked on various projects in Paris, Vienna, Bodrum, Mersin, Gaziantep and Istanbul.

I specifically worked on Grasshopper code analysis and graphical representation, drawings, preparing project presentations and 3d modelling.



46 Dentaland parametric façade



reset

reset by TEAMXYZ

PROGRAM/TYPE
Smart-home Assistant - Systems Design

ACADEMIC MENTORS
Prof.Dr.Arzu Gönenç Sorguç (Tokyo Tech, Mechanical Engineer)
Prof.Dr. Özlem Özdemir (Texas Tech, Max Plack, Business Administrator)
Emre Erkal (Harvard GSD, Founder @Erkal Architects)

ARCELİK COMPANY MENTORS
Orkun Önal, Bülent Efecik

TEAM MEMBERS
Eldem Rehber (ID - Industrial Design)
Güz Ceren Türkan (BA - Business Administration)
Murathan Çuğunlular (METE - Metallurgical Engineering)
Zehra Güneş (EEE - Electrics Electronics Engineering)
Ege Öden (ME - Mechanical Engineering)

DATE
2021-2022 I Fall
Interdisciplinary Problem Solving @METU Design Factory



As an interdisciplinary team composed of 6 students from different fields, we worked with Arçelik Company and developed design solutions for the given «home-assistant» problem to make users' life easier.

We reinterpreted the term "home-assistant" and consider it as "assistant-home". To achieve this, we proposed "RESET" which is a home empathizer that observes and learns from user patterns latently to enhance and optimize the users' life at home.



The Brief

How might we create an assistant home that latently learns from user patterns?

What is RESET?

RESET is a **mindset**, a **methodology**, a system that makes your home your extension and an innovative way of designing smart living at home

The Virtues of RESET

Takes input **latently** -with no conscious attempt of the user.

works with **latent information** collected from home patterns

observes and evaluates data & optimizes smart systems

It is shaped by **user patterns**.

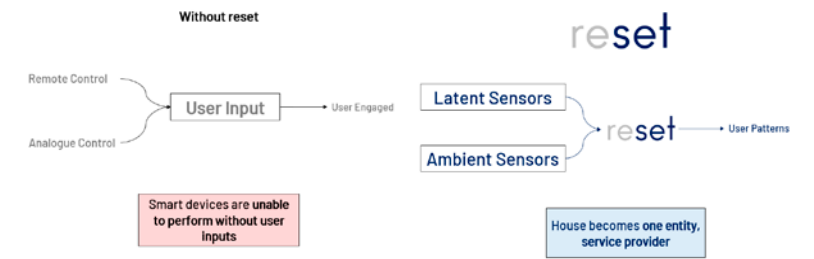
offers an «assistant-home» system rather than proposing a single home-assistant

prioritizes privacy with **no surveillance**

Personas

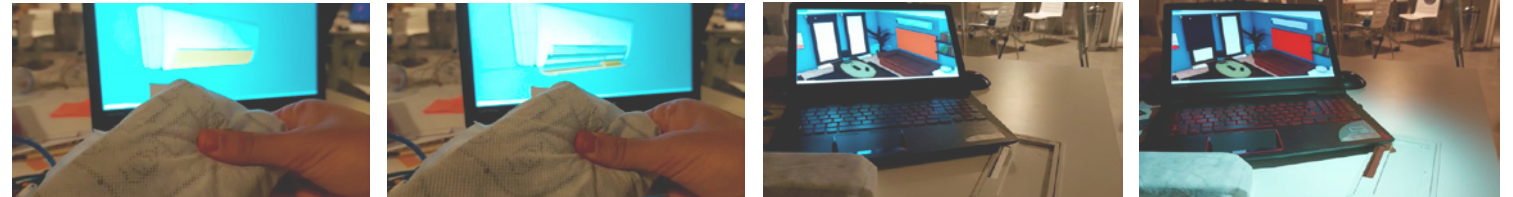


Process Scheme



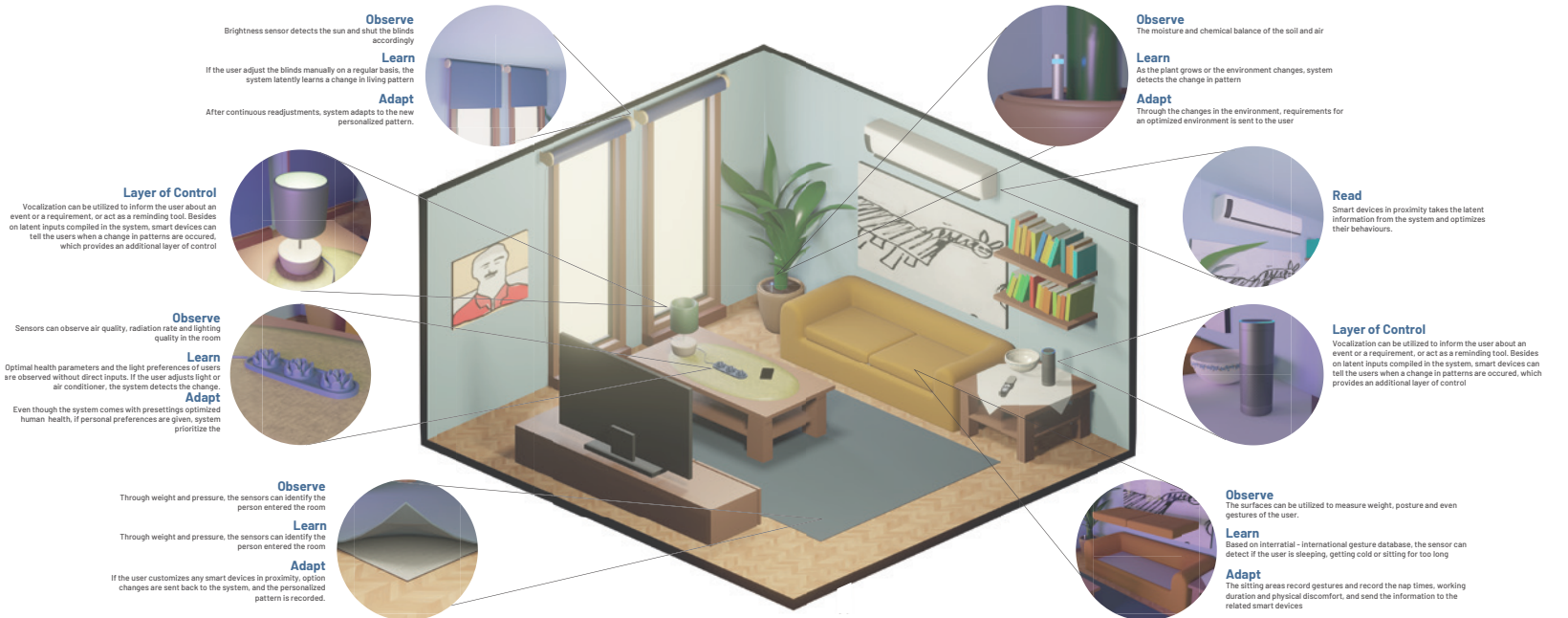
Proto-Persona "Tracking and enhancing patterns to improve life quality at home"

Prototype: Arduino-Grasshopper simulation

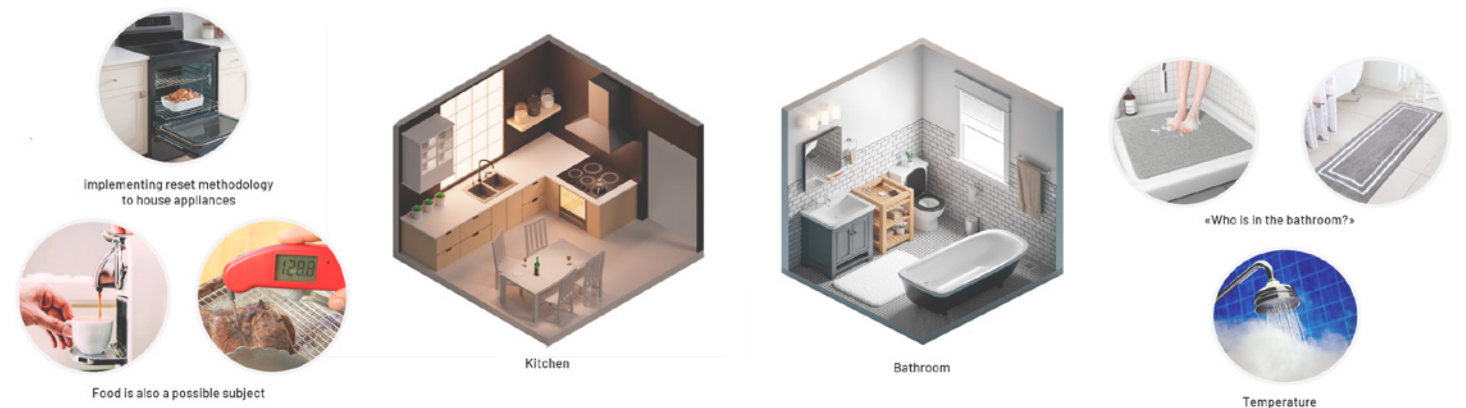


We utilized Arduino, Rhino with Grasshopper and Firefly to create a prototype. We simulated pressure and light effects. Engineers in the team created the code, I prepared the Rhino model and handled Firefly-Grasshopper-Arduino integration. At the end, we achieved a prototype that works as a mock-up of our proposal in work.

How can we make an assistant-home through RESET methodology?



Some other parts of the room where you can integrate RESET methodology easily



P.06 BLUEPRINTGREENDESIGN

PROGRAM/TYPE
Python program

DATE
2024-2025 | Fall
15112 - Fundamentals of Programming and Computer Science
Carnegie Mellon University

Project Link: www.meltemshin.rocks/blue-print-green-design

A trial to compile Enviro-I course manual heat loss calculations with an app!

BLUEPRINT GREEN DESIGN is an interactive, free, accessible and low-size app for anyone who wants to create and visualize simple building plans in 2D, calculate and visualize their heat loss, and get energy analysis for each component to make informed decisions to improve energy efficiency.

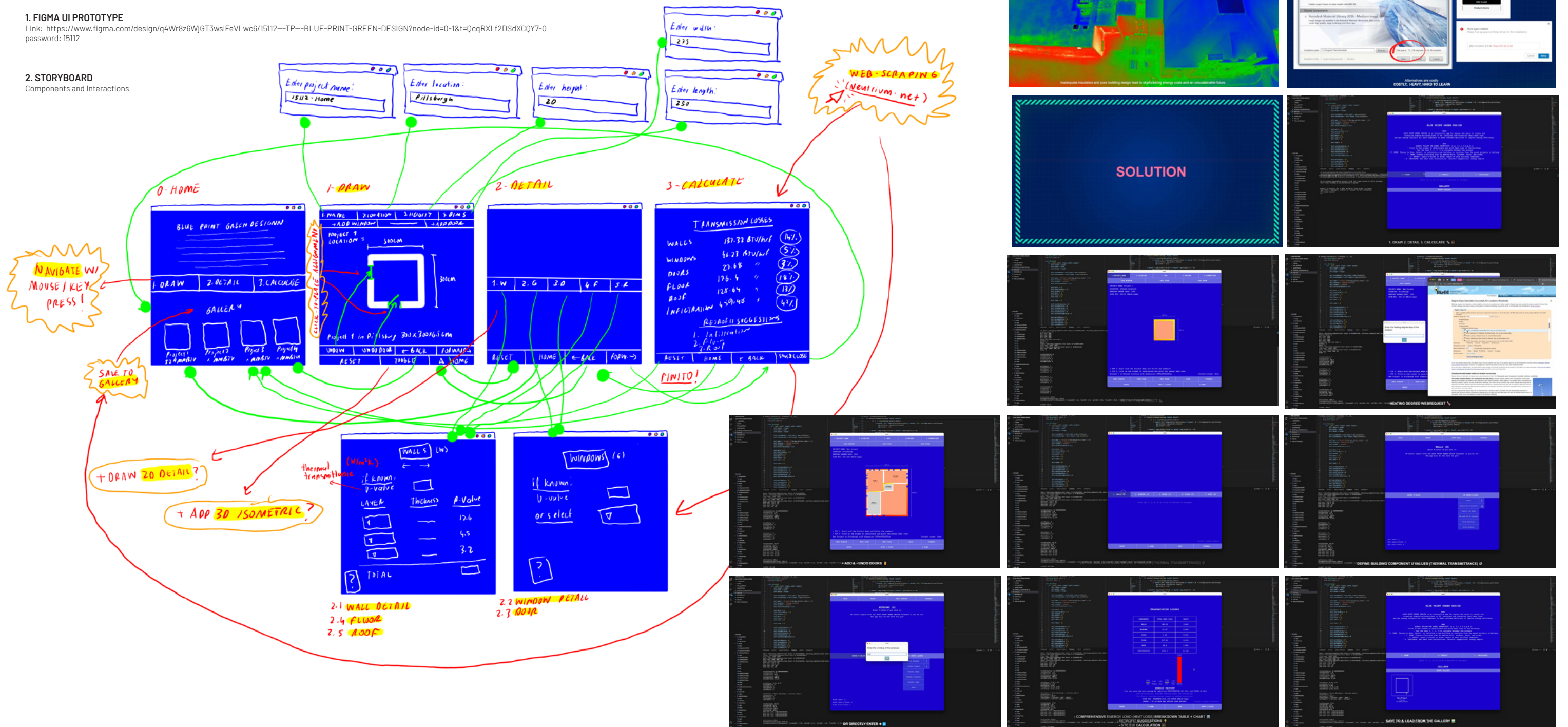
The "Home" screen allows users to design layouts by defining the project name, location, and dimensions, as well as defining rooms, walls, windows, doors, floors, and roofs. The "Detail" screen allows users to either directly input component U-values (thermal transmittance) or enter material layers for each building component. The app uses web-scraping to fetch thermal conductivity values for component heat loss calculations. After the heat loss calculations, the "Calculate" screen breaks down the building's heat loss, detects the least efficient components, and gives prioritized retrofit suggestions.

1. FIGMA UI PROTOTYPE

Link: <https://www.figma.com/design/q4Wr8z6WJGT3wslFeVLwc6/15112--TP--BLUE-PRINT-GREEN-DESIGN?node-id=0-1&t=0cqRXLF2DSdXCQY7-0>
password: 15112

2. STORYBOARD

Components and Interactions



Occupations + Organizations & Workshops

music, volleyball, food & coffee + independent events & activities



Regional Finals, @izmir
1st place in Izmir



Izmir All-Star Team, @Balikesir
1st place in Turkey



National cup, @Ankara
8th place in Turkey



National cup, @Nevsehir
4th place in Turkey



National camp @izmir



National cup
@Kalamis, Istanbul



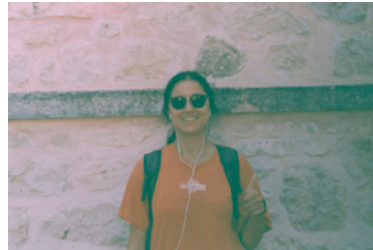
High school cup, @izmir
3rd place in Izmir



Professional volleyball player

Besides being a licenced volleyball player for Arkas SK for 8 years, I played in National Beach Volleyball Team and Izmir All-Star Team -which we ranked the first in the country. Prior to switching to volleyball -particularly thanks to my mother- I played basketball at DSI Basketball team for a few years as a junior. After 8 years of being a player, now, I took up tennis as quite an amateur one who would rather choose to play on green Wimbledon but never gets to that point. Most and most importantly!! As a life-long outdoor runner (not a rug though...) I try to keep up with my Watch (telling me about my fitness routine has changed - in a negative way) and discover new trails anywhere in the world.

Some selected awards include:
- "Anadolu Yıldızları" All-star League 1st place nationwide, 2014
- 4th place in Türkiye, June 2014
- Turkish National Beach Volleyball Team, August 2014
- 1st place in Izmir, May 2015



EASA Turkey 2021

As EASA (European Architecture Student Assembly) 's Turkey branch, we organized a national gathering named "partite" around EASA's 2021 theme of «reality», invited a limited number of participants via an open call, gathered at Karaburun, Izmir, conducted workshops and experienced "making of things" collectively.

to track the process, visit
https://www.instagram.com/easareality_partite/
<https://www.easasnetwork.org/easa-2021>



MONOEARTH

Rammed Earth Workshop

Participated in 3 days Rammed Earth Fire Pit Workshop by Mono Earth in Nevsehir, practiced earth-based technique and theory.



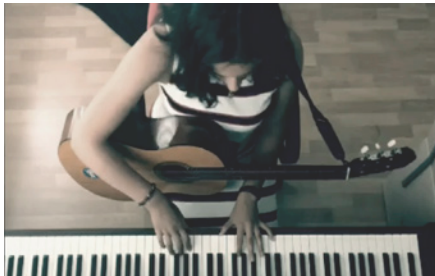
Les Chorales concert @Valson-La-Romaine, FRANCE



JBT TRT live stream



Santa Maria Draperis concert @Beyoglu, Istanbul



8th Pera International Piano Festival & Competition



@oncekahvem



@odtudeyemek



@iaminarchitecture



Piano, guitar and singing

I play the piano and the guitar and sing since my childhood. Since 2010, I upload some selected covers and talks about music, coffee and education on Youtube.



Passion for archiving and sharing

My passion towards fine food, coffee and spatial experience comes into existence on my specialty coffee & food critique blog @oncekahvem. Besides oncekahvem, @odtudeyemek aims at exploring the best tastes in the campus and creating a «METU GOURMETGUIDE» and @iaminarchitecture is where I form my digital catalog on architecture.



SO?

"The Trashes of the Village" by SO?

Designed around the theme of "alternative practices" I got involved in "The Trashes of the Village" workshop organized by Sevinçe Bayrak and Oral Göktaş, founders of SO? Architecture and Ideas.

We focused on the waste spaces and biological wastes, analyzed biological waste cycles of water, electricity and goods and represent them in a report.



AA Sirince Visiting School

Research and experimentation on Archaic and Anatolian Heritage of Western Aegean of Turkey, AA Sirince Visiting School "Tales of Hesti, Hearth and Stove" aims at inquiring distinct forms of architecture that have been proliferated around rituals and mythologies and translating findings into radical archival experiences.

I was fully funded by AA to participate the program.



AA VISITING SCHOOL - PROGRAMME TRANSCRIPT The purpose of this transcript is to provide a description of the nature, level, content, content and status of the AA Visiting School programme that was provided and successfully completed by the individual named. Teaching is focused on the individual student, with regular one-to-one tutorials, as well as circular lectures, group exercises, collaborations and peer assessment.	
1. Personal Information 1.1 Name: <u>Selin</u> 1.2 Formname(s): <u>Meltem</u>	
2. Programme Information 2.1 Name: <u>In other languages</u> 2.2 Fields of Study: <u>Architecture and Urbanism</u> 2.3 Delivering Institution: <u>The Architectural Association, 30 Bedford Square, London WC1B 3EJ, England</u> 2.4 Physical Location of Study: <u>Istanbul, Turkey</u> 2.5 Language of Instruction: <u>English</u> 2.6 Dates: <u>28 June - 8 July 2023</u> 2.7 Length: <u>10 days: Minimum 100 hours</u>	
3. Programme Content 3.1 Content: <u>AAVS in other languages examines the in-between spaces of Mediterranean port cities in the context of historical and contemporary conditions of urban politics. This year the visiting school will be located in the context of time to view the remaining condition of displacement and its effects on the city. This historically migrant neighbourhoods surrounding town's human agency continues to be the point of arrival in the city the contemporary conditions due to the condition of the town status in the 19th century.</u> 3.2 Learning Methods: <u>Field work, material practice, workshops, practical work</u> 3.3 Skills: <u>Analysis, design skills, building skills</u>	
4. Certification 4.1 Date: <u>13/01/2023</u> 4.2 Name: <u>Agla Fland, Programme Head</u> 4.3 Signature(s): <u>Agla Fland</u>	



AA Izmir Visiting School

AA Izmir Visiting School examines the in-between spaces of Mediterranean port cities in the context of historical and contemporary conditions of urban politics. I was funded by AA to participate the program.



Jazzberry Tunes is a METU-based acapella choir founded by 2 METU alumni engineers. Giving concerts in various cities in Turkey, Jazzberry Tunes, has also appeared in national and international festivals and won awards. Jazzberry Tunes took part in Les Chorales, one of Europe's largest choral organizations, held in France in 2019 and had the pride of representing our country abroad for the first time.

Concerts:
- Evliyagil Museum New Year Concert, 2021
- World's Choir Day Concert, CSO, Ankara, Turkey, 2021
- Les Chorales Festival, Valson-La-Romaine, France, 2019
- Beyoglu Santa Maria Draperis Church Concert, Istanbul, Turkey, 2019
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contact me.

Meltem Sahin Ozkoc (she/her)

MS. Building Performance & Diagnostics, 2026 | Carnegie Mellon University

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